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THE PSYCHIATRIC QUARTERLY

(SUCCESSOR TO THE STATE HOSPITAL QUARTERLY)

Radiothermic Treatment of General Paralysis

Report of Results from Use of Ketogenic Diet and Insulin
with Water Restriction in a Series of Epileptics

Brain Tumors

The Use of Stramonium in the Treatment of Epileptics
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RADIOTHERMIC TREATMENT OF GENERAL PARALYSIS*

BY LELAND E. HINSIE, M. D.

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AND

CHARLES M. CARPENTER, PH. D.

This communication is in the nature of a preliminary report on the treatment of general paralysis by a heat producing electrical device called the *radiotherm*. Through the courtesy of the General Electric Company the apparatus was put at our disposal and has been in use by us since June, 1930. Since that time, that is, for approximately eight months now, we have been gathering data as regards the influence of the apparatus on patients with general paralysis. Evidently in this short space of time little of a conclusive character may be said, especially with regard to the management of general paralysis. It appears, however, from the preliminary formulations that the work is well worth continuing.

THE APPARATUS

For present purposes the description of the apparatus given by Carpenter and Page ("The Production of Fever in Man by Short Radio Waves," appearing in *Science*, Vol. LXXI, 1930, 450-452) may be repeated here. Since 1928 "special types of apparatus have been designed by the research laboratories of the General Electric Company and used experimentally in an endeavor to cause a fever in man rapidly without great discomfort to the patient and to a degree high enough to be of value. The equipment used in our experiments has been constructed on the same principle as a short wave radio transmitter, with the exception that the energy is concentrated between two condenser plates instead of being directed from an aerial. The heater consists of a vacuum tube oscillator and a full wave rectifier that supplies the high voltage for the oscillator. The high frequency oscillator is composed of two 500-watt radiotrons operating at a frequency of from 10,000 to 14,000 kilocycles, the output of which is concentrated between two plates. The rectifier is an oil immersed transformer having a 7,000-volt secondary and feeding two half-wave, hot cathode,

* From the New York State Psychiatric Institute and Hospital, New York City.

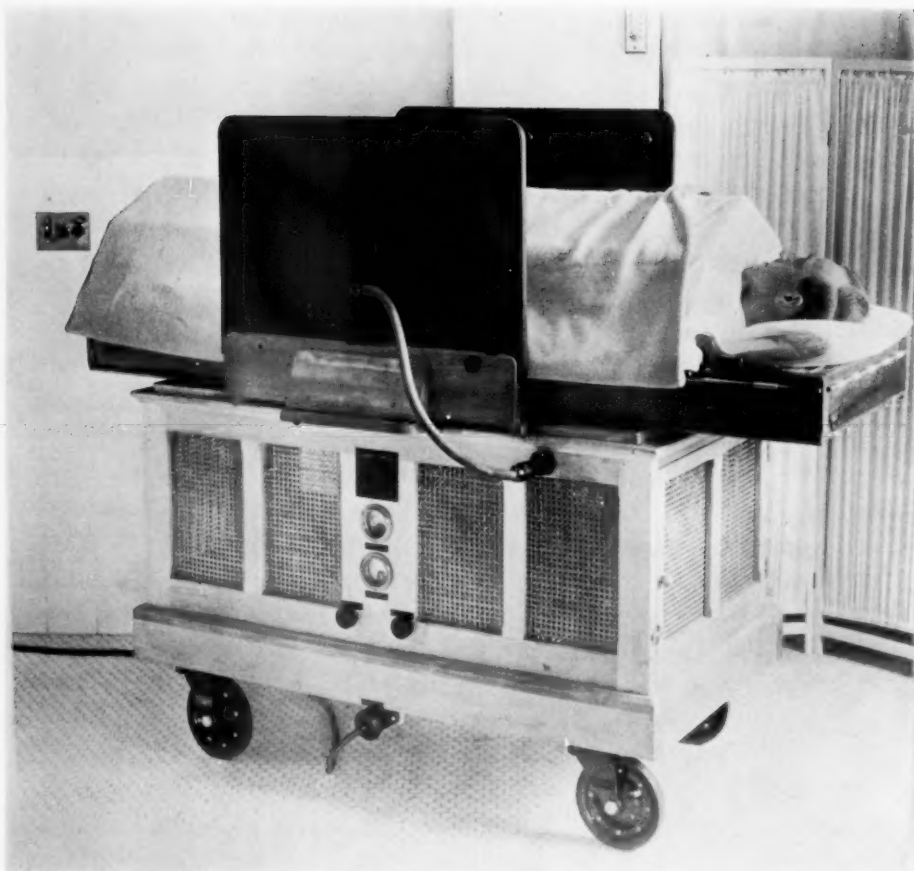
mercury vapor tubes. In conjunction with a filter system this unit furnishes the 3,000-volt D. C. plate supply for the oscillator. An auto-transformer is connected on the primary circuit of the high voltage transformer to provide plate voltage regulation.

The condenser plates are aluminum, 28 inches by 18 inches by $\frac{1}{8}$ inch and are covered with hard rubber plates 30 inches by 20 inches by $\frac{1}{4}$ inch to prevent arcing should the patient or attendant come in contact with the plates. In this field of undamped waves between the plates there is a rapid alternation of 3,000 volts drop of potential. We have obtained our greatest heating from the use of a 30-meter wave that oscillated 10,000,000 times per second between the plates. We have used wave lengths of 6, 15 and 18 meters, but they have not heated the body so effectively with the oscillator described.

The patient is suspended on interlaced cotton tapes stretched across a wooden frame 76 inches by 28 inches made of joist 2 inches by 6 inches in section. The under surface of the frame is covered with celotex one-half inch thick, forming an air chamber beneath the body. A celotex cover of similar thickness, 8 inches high and one foot shorter than the frame, is fitted over it so that the head of the patient projects through an opening at one end. Thus there is formed a fairly tight air chamber around the body as it lies on the tapes. The patient rests on his back and the plates are placed at each side of the celotex box, so that the waves oscillate through the body from one side to the other. The plate distance can be varied, but as a rule has been kept at 30 inches. Two small hair driers are placed in openings at the foot, one above and one below, to circulate hot air around the body. These decrease heat loss and equalize the humidity throughout the enclosed atmosphere.

By applying the plates in this manner and by enclosing the body, it is heated rapidly without causing great discomfort to the patient. We have raised the normal rectal temperature of 99.6 degrees F to 104 degrees F and 105 degrees F in from 60 to 80 minutes. In one instance a temperature of 106.5 degrees F was recorded. Higher temperatures may be obtained easily with the apparatus employed, but, because of our limited experience, we have proceeded cautiously. When the desired temperature is reached it may be maintained in several ways: First, by decreasing the volt-





The Radiotherm. The lower compartment contains the electrical apparatus. The upper compartment is for the patient. The top of the upper compartment is removable and is put in place after the patient lies down on the stretcher, which forms the floor of the upper compartment. The hot air fans (hair driers) are placed in openings at the foot of the upper compartment. The entire upper compartment is freely movable; thus the patient may be so placed that the heart, for example, may be taken out of the direct concentrated field of short radio waves.

age; second, by increasing plate distance; third, by employing only the hot air blowers."

Ordinarily the patient is not kept in the radiotherm after the desired temperature has been reached. The temperature is maintained for six or seven hours more by the following measures. When the patient is taken from the radiotherm, he is immediately wrapped in four woolen blankets and taken to his bed. A warm bed has been prepared to receive him. The patient lies on a rubber sheet under which is a fifth woolen blanket. Both the sheet and the additional woolen blanket are placed completely around the patient. Four or five hot water bottles are then placed around him. The object of all this is to prevent heat loss. Additional blankets may be used if necessary. Care should be taken to see that the temperature does not rise to an undesirable height; ordinarily with the technic described in the foregoing it may be expected that the temperature will rise about one degree Fahrenheit over that present when the patient was taken from the radiotherm. Warm fluids may be given to the patient while he is undergoing heat therapy.

A course consists of ten treatments. Treatment is given every other day. This plan reproduces the temperature curves commonly observed in benign tertian malaria. In the series of patients that are now undergoing treatment no form of specific drug therapy is being administered.

CLINICAL DATA

The plan of approach was to reproduce the temperature curves of inoculated malaria in a series of patients with general paralysis. If these conditions were met, it was considered that there might then be more or less suitable control material by which the efficacy of radiothermic treatment might be computed. The requirements for treatment were still further limited, in the sense that there should be the same indications for treatment by radiothermy as are commonly expected among patients who are selected for malarial therapy. All patients were adults. No cases of juvenile general paralysis are included in this program of study. Nor has there been any distinction drawn as to clinical types of the disorder. In brief, only those patients have been selected, who meet the requirements for the administration of malarial therapy.

Up to the present time 17 patients with a diagnosis of general paralysis have passed through a regular course of 10 treatment periods. As a rule in each individual treatment the temperature remains above 102.5 degrees F for about seven hours; ordinarily during the greater part of the seven-hour period the temperature remains around 105 degrees F. Thus, the total number of hours for the entire treatment period (consisting of 10 treatments) is approximately 70 hours.

This figure (70 hours) was arranged before treatment by radiothermy was undertaken. The apparent rationale was based on the total number of hours of temperature experienced in 25 patients of general paralysis, who, under malarial therapy, had gained full clinical remission. It was considered that, from the standpoint of temperature alone, 70 hours seemed to represent the optimum. However, there is nothing conclusive as regards the total number of hours of temperature. It is a problem for further investigation.

It is, perhaps, inadvisable at the present time to do more than refer to the outcome in these 17 patients in a general way. This attitude is assumed for two reasons in particular. In the first place this form of treatment has been going on for only eight months; and secondly, only 17 patients have been treated. Nevertheless, certain trends of interest have appeared. *The treatment is tolerated moderately well.* At least the inconveniences to the patient are no greater, when temperature is elevated by radiothermy, than they are by other febrifacient agents. *The agent that induces the temperature rise is in immediate control.* This is especially valuable in emergency situations and offers the physician a far better opportunity of instituting remedial measures when a precarious condition seems imminent. *The temperature rise may be gauged to meet the cardio-vasculo-nephritic capacity of the patient.* This is perhaps one of the outstanding merits of this type of treatment. Usually in the first treatment period the temperature is induced slowly and is not allowed to go above 100 degrees F or thereabouts. The patient thus becomes accustomed to the elevation of temperature and subsequent treatments are less shocking to the system.

From the clinical standpoint there are a few generalities that may be mentioned at this time. As a rule the patients begin to show improvement while they are undergoing treatment. This is

especially observed in the intellectual sphere. Patients say they are able to think a little more clearly, that the mind seems less dull. They become more clearly oriented. They feel stronger. This latter feature is significant because it indicates that the treatment is not particularly wearing; at least, vitality is generally regained soon after the treatment period has ended. During treatment there is usually a loss of weight of from five to ten pounds. The loss is promptly restored upon the termination of treatment and ordinarily there is a steady upward trend of the weight curve. Anemia is mild during treatment and the red blood cells retain their general characteristics.

Eleven of the 17 patients have left the hospital because their condition has been considered improved. The degree of improvement has varied in individual cases. At the present time it is not regarded as desirable to specify the clinical outcome further than to make the general observation that improvement has taken place.

One death occurred. This took place during the second period of treatment. Autopsy was not performed. This was the first patient to come under our treatment and it is believed that therapy entered as a positive factor in the production of the terminal phase.

The remaining patients who are still in the hospital completed their treatments only a short while ago. What the clinical outcome may be in this latter group can be determined only by more prolonged observation. In general it might be stated that they seem to be improving.

LABORATORY DATA

The data at our disposal exhibit some findings of interest. It will be necessary, however, to carry out more extensive investigations before opinions of more than a tentative character may be expressed.

During the course of treatment there is a general reduction in the red blood cell count, although as a rule the reduction is not severe. Restoration of the blood picture from this standpoint is prompt. Ordinarily the morphological characteristics of the cellular elements of the blood are retained. The hemaglobin as recorded by the Dare instrument is also reduced, but it tends to attain its pretreatment level promptly upon the cessation of treat-

ment. In Table I are recorded the findings from a representative case record.

There is a tendency toward increase in the polymorphonuclear leucocytes, a condition that roughly parallels a relative decrease in the lymphocytic cells. The findings in a representative case from this angle are shown in Table II.

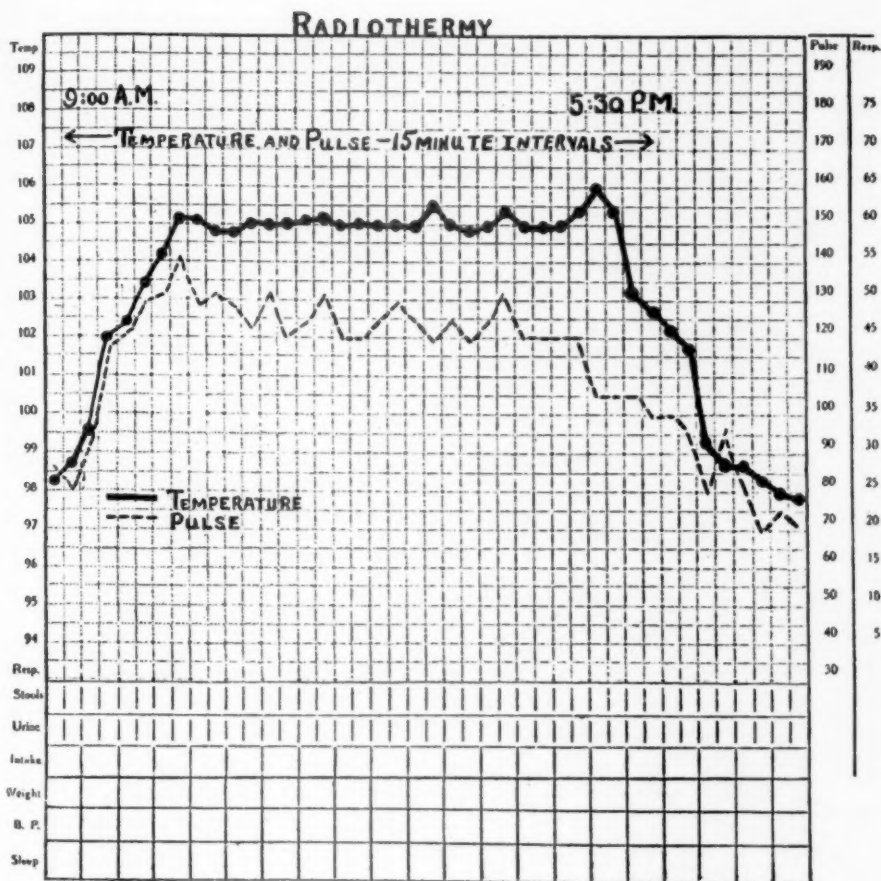
There is nothing of special consequence from the standpoint of total blood solids (Table III, taken from a sample case record). Likewise the chlorides of the blood (Table IV) show no striking deviation from figures that are considered within average range.

During treatment there is generally a rise in the blood sugar percentage. There is, however, nothing of special moment in this rise (See Table V).

It is too early to render any opinion as regards the influence of radiotherapy on the Wassermann findings in the blood or spinal fluid. From past experiences with other types of febrile therapy it is evident that at least a year should elapse from the time that treatment is completed until a fairly reasonable statement relative to the general trend of Wassermann reactions is permissible. The cell count in the spinal fluid is commonly reduced; the globulin content seems to be more resistant to changes.

It is a pleasure to acknowledge the cooperation of Dr. Joseph R. Blalock, Dr. Florence C. Stein and Dr. Siegfried E. Katz. Dr. Erwin Brand carried out the biochemical work. Miss Kathleen S. King has been especially helpful throughout the period of this research problem.

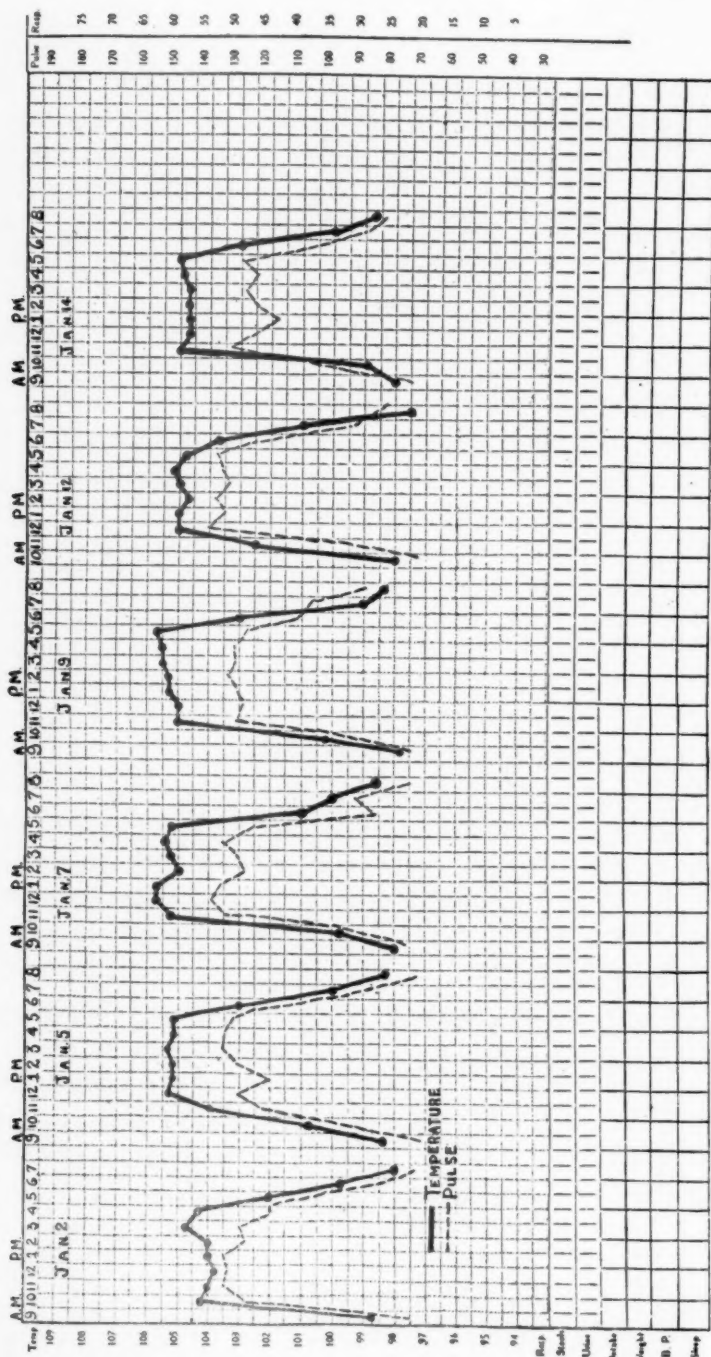
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In Chart I are recorded the temperature and pulse findings of a single radiothermic treatment. The temperature and pulse were taken at 15-minute intervals. When the temperature reached 105° F the patient was taken from the radiotherm and put to bed under conditions described elsewhere. Note the approximate parallelism of the temperature and pulse curves.

Name **AY #291**

RADIO THERMY



In Chart II are represented the temperature and pulse curves in six successive treatment periods, as recorded hourly. The patient received a total of 10 such treatments. Note that the temperature curves produced with the radiotherm are similar to those commonly witnessed in patients inoculated with malaria.

TABLE I. HEMATOLOGICAL DATA

Red blood cell count	Hemaglobin, per cent
<i>Before Treatment</i>	
4,000,000	77
<i>During Course of Ten Treatments</i>	
3,870,000	68
4,250,000	63
3,360,000	70
3,600,000	
4,150,000	69
3,890,000	64
3,810,000	
3,350,000	
4,010,000	
4,130,000	
3,000,000	
3,790,000	
3,750,000	
4,260,000	
4,230,000	
3,720,000	
3,780,000	76
<i>After Treatment</i>	
4,230,000	73

TABLE II. WHITE BLOOD CELL COUNT

Time	Temper- ature	Absolute count	Relative count (percentage distribution)			
			Neutrophile	Lymphocyte	Large mononuclear	Eosinophile
Mar. 3, 1931						
8:10 A. M.	98.6	8,340	72	21.0	5.0	2.0
9:05 A. M.	99.0	8,360	74	20.0	5.0	1.0
9:30 A. M.	102.0	8,890	74	17.0	8.0	1.0
10:05 A. M.	103.5	9,520	71	21.5	6.5	1.0
10:50 A. M.	105.2	9,540	78	16.0	5.0	1.0
12:00 A. M.	105.0	10,520	81	13.0	5.0	1.0
1:00 P. M.	105.0	11,460	84	9.0	5.5	1.5
2:00 P. M.	105.2	14,100	80	13.0	6.5	0.5
3:35 P. M.	105.4	12,200	84	9.0	5.5	1.5
6:45 P. M.	100.0	12,400	68	25.0	6.0	1.0
11:45 P. M.	99.0	11,400	70	21.5	7.5	1.0
Mar. 4						
8:45 A. M.	99.0	7,800	73	19.0	7.0	1.0

RADIOTHERMIC TREATMENT OF GENERAL PARALYSIS

TABLE III. TOTAL BLOOD SOLIDS

Before each individual treatment Mg. per 100 c.c.	After each individual treatment Mg. per 100 c.c.
20.5	22.0
21.7	23.3
21.3	23.2
20.9	22.0
20.2	22.8
20.0	22.2
20.5	22.0
20.2	22.1
20.0	21.7

TABLE IV. BLOOD CHLORIDES

Before each individual treatment Mg. per 100 c.c.	After each individual treatment Mg. per 100 c.c.
486	486
503	528
495	511
511	478
511	495
519	486
519	511
519	495
478	486
486	495

TABLE V. BLOOD SUGAR PERCENTAGE

Before each individual treatment	After each individual treatment
0.104	0.098
0.093	0.124
0.090	0.101
0.111	0.136
0.105	0.120
0.094	0.115
0.104	0.125
0.102	0.115

REPORT OF RESULTS FROM USE OF KETOGENIC DIET AND KETOGENIC DIET WITH WATER RESTRICTION IN A SERIES OF EPILEPTICS*

BY GLENN J. DOOLITTLE, M. D.,
SENIOR ASSISTANT PHYSICIAN, CRAIG COLONY

PART II

Modified Ketogenic Diet with Water Restriction

McQuarrie^{7, 10} had already done considerable work with fasting and ketogenic diet for the relief of convulsions in children and felt that inasmuch as during fasting these children lost considerable weight this was chiefly due to the elimination of water and that there is a mild polyuria following epileptic seizures, therefore water elimination might influence seizures favorably. The general plan of his work was the observance of the frequency and severity of convulsions and the occurrence of other symptoms in epileptic children when placed on the different levels of water intake. He did not consider the water metabolism of the food. The total number of calories was that calculated to be required for maintenance of body weight under ordinary conditions with the proper quantities of protein, fat and carbohydrates to insure nitrogen balance in a mixture of ketogenic and ketolytic constituents in most instances at or near the borderline of ketosis. He also tested the effects of antidiuresis as produced by the effect of the antidiuretic hormone of the hypophysis (betahypophamine) and used the natural diuretic urea to determine the effect of diuresis.

He divides his work into five experiments and the following are his chief findings:

The epileptic subject retains body water to an abnormal degree during the active phase of the disease and that seizures follow accumulation of water beyond a certain point with disappearance of seizures following the removal of extra water by rigid restriction of the fluids and that hyperthermia occurs from excessive restriction of water. Unless the restriction of water is extremely stringent the initial control of seizures by this method alone in a severe case may require an extended period apparently because of a strong tendency to water retention. He also finds this therapy results in

* Part I of this study appeared in THE PSYCHIATRIC QUARTERLY for January, 1931

hyperthermia and a rapid loss of weight which might be harmful if prolonged far beyond the period necessary for ridding the body of excess water and causing a cessation of seizures but that on an entirely adequate borderline non-ketogenic diet water balance can be established at a level which will prevent seizures and at the same time be compatible with comfort and normal physiologic activity. He states body weight is increased even though the water intake is relatively low and seizures are made to recur following the administration of the antidiuretic hormone betahypophamine and that such retained water may be removed by large doses of concentrated urea solution a procedure which is likely to be followed by cessation of seizures.

McQuarrie feels that the results of his experiments strongly suggest a disturbance in the regulation of water exchange in the body in epilepsy and that much of the evidence points to the existence of an abnormal tendency toward a positive water balance or to an unusual "sensitiveness" to changes in body water in this direction during the active phase of the disease and prior to occurrence of seizures.

He adds that fasting, a ketogenic diet, rigid restriction of fluid intake and the administration of large doses of acid forming salts have in common the effect of dehydrating tissues and that the relationship of any disturbance in acid base equilibrium is of secondary importance as reported by himself and Keith⁷. He suggests that the beneficial effect of partial dehydration depends merely on the mechanical relief from excessive pressure within the fluid channels of the brain, particularly in those cases having abnormal accumulations of cerebrospinal fluid in the subarachnoid spaces due to organic obstructions. In the idiopathic cases he feels that there is a possible disturbance in the physiologic regulation of water balance within the brain.

About the same time Temple Fay¹¹, working independently viewing epilepsy from the standpoint of a neurosurgeon considered that the accumulation of subarachnoid fluid and cortical edema caused convulsions in idiopathic epilepsy.

He reports his experience of 59 cases of encephalography and notes characteristic pictures obtained by roentgenograms in those patients showing convulsive seizures as follows: "Air is seen in

greater amounts especially over the frontal and parietal areas. The convolutions seem small, the sulci deep, the distance between the brain surface and skull is distinct and may approach one centimeter in some cases. The frontal pole is sunken and much air is seen between the brain and frontal bone shadow. Deep pockets of air in various locations are frequently noticed."

He records also that there is a fairly large collection of air around the Pacchionian bodies, especially the middle pair and adds that he rarely sees in either the normal or diseased brain fluid over the occipital or inferior temporal regions.

He refers to Weed's work relative to the absorption of the spinal fluid as follows:

"Thus it seems fair to assume that the absorption of the cerebrospinal fluid is a two-fold process being chiefly a rapid drainage into the great dural sinuses and in small part a slow indirect escape into the true lymphatic vessels."

Fay has gone over the histology and pathology of the subarachnoid villi and feels that they are present at birth as small cell collections associated with the large venous sinuses. They reach their adult stage at about the 20th year of life and then become known as the Pacchionian bodies. Thus we quote from two of Fay's summaries:

"It seems fair to assume on the presented evidence that we have a most important structure in the arachnoid villi, concerned with the escape of cerebrospinal fluid into the dural venous sinuses. That pathological processes involving this structure or its failure to develop properly to a point necessary to compensate for the demand put upon it, would probably definitely impair its function and rate of transmission of fluid, so that during periods when overloading of the general system with fluid occurred, more cerebrospinal fluid would be produced."

"It seems reasonable to accept, therefore, a disturbance of circulatory function occurring just prior to an attack. This sudden vascular change may have its source of instability locally, or at a distance, due to variety of factors. It may be considered as the precipitating factor. However, these same manifestations occur in many cases without convulsive seizures, and therefore must be considered in the light of a contributing factor. That cerebral

anemia and anoxemia are insufficient in themselves to bring about a convulsive response is evident, else we would find this symptom associated with almost every case of death by natural causes. If, however, we combine what the writer has termed the predisposing factor (supracortical edema) with the precipitating factor (circulatory disturbance, cerebral anemia and anoxemia), we may reasonably assume that certain conditions will result."

He tried water restriction treatment on 17 cases. Six failed of cooperation or discontinued treatment early. Two chronic institutional cases were treated by him. One patient being free from attacks for three weeks then eloped from the hospital, the other was attack free during observation but when returned to the institution seizures again ensued. The remaining three patients were unable to overcome their desire for fluid and as they were not under supervision dehydration was discontinued. Five of the patients in this small series continued free from attacks for a sufficient length of time to be presented. He failed to get a single case of acidosis from dehydration alone but did secure acidosis on a mildly ketogenic diet with water restriction. This he believes due to carbohydrates in the regular diet and reports that dehydration may be carried out on certain patients for a year without deleterious effects on their general health. This small group of patients which suffered from generalized convulsions have become attack free and remained so as long as the water intake restrictions established for them have been maintained. Those suffering from slight convulsions or petit mal have not been benefited.

Dr. Fay feels that no conclusion can be made in such a short period of time but feels very strongly that the subarachnoid villi and later Pacchionian bodies show disease in epilepsy and in this way fail to drain a sufficient amount of cerebrospinal fluid into the venous sinuses thus causing an accumulation of cerebrospinal fluid producing cerebral edema as a result of which convulsions ensue.

Winkelman and Fay¹² on the histologic and pathologic changes with reference to the idiopathic and convulsive states, report their observations on study of the Pacchionian granulations in series of more than 200 cases and group their pathological studies under the following five headings: Aplasia, hypoplasias, hyperplastic, fibrosis and infiltrative.

Under the aplasia they report 8 cases of idiopathic epilepsy in which were found microscopic lesions. They also report three cases of hydrocephalus, convulsions occurring in one case. They report one case of acute alcoholism, one case of cancer meningitis and one case of brain tumor. Of the acute alcoholism they report a wet brain but no convulsions and no convulsions in the other two cases referred to. So that of a total of 14 cases with same pathology only 8 showed convulsions.

The second highest group in which epilepsy is found is the hypoplastic and out of this group of 28 cases as above referred to, 8 cases show convulsions. In the pathological findings that they record under the hypoplasias the development of the Pacchionian system has not reached full maturity. Out of a total of 200 brains studied relative to Pacchionian granulations only 28 showed convulsions.

As against this theory Hassin¹³ writing on the villi of the spinal arachnoid feels that a number of facts seem to favor a view that neither the brain nor the spinal cord utilizes the foregoing structures for the purposes of elimination of the cerebrospinal fluid. For instance, the arachnoid villi and their hypertrophied form, the Pacchionian bodies, being mere folds of the arachnoid membrane must possess the same function as the latter. Therefore, if the villi were the organs of absorption of the cerebrospinal fluid, this would be also the function of the entire arachnoid, a function nobody would even suggest. As a matter of fact the villi have no function. As folds they are merely of some significance, just as folds or wrinkles of the skin are of significance, probably indicating an advanced age.

His summary and conclusions are as follows: "The spinal arachnoid possesses villi that are analogous to those of the cerebral arachnoid, when hypertrophied these are veritable Pacchionian bodies both the cerebral villi and the spinal villi harbor cerebrospinal fluid. They are numerous over the roots where they are continuous with the perineural root spaces. While filtration or osmosis may possibly take place from the villi into the venous dural sinuses the main mode of escape of the cerebrospinal fluid is probably by way of the perineural root of nerve spaces. Like the subdural the subarachnoid cavity is not a closed but an open space."

REPORT OF RESULTS FROM USE OF KETOGENIC DIET

TABLE No. VI. GRAMS OF WATER CONSUMED BY A SELECTED GROUP OF PATIENTS, JUNE 7 TO JULY 11

[illegible]

TABLE No. VI. GRAMS OF WATER CONSUMED BY A SELECTED GROUP OF PATIENTS, JUNE 7 TO JULY 11—(Concluded)

June	July										Daily average								
	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	H ₂ O average total in food	Daily average fluid intake
960	750	750	750	900	1,080	795	1,290	600	1,015	900	600	750	1,020	900	750	900	1,080	*770	1,780
1,200	915	915	915	960	870	810	1,020	660	600	1,515	870	1,740	1,020	1,170	1,110	1,020	1,335	770	1,696
...	750	525	750	750	750	750	750	750	750	600	600	810	750	1,080	600	600	930	770	1,478
450	600	450	750	300	300	600	450	300	450	300	300	660	510	450	450	210	900	770	1,334
675	600	600	600	600	600	600	600	600	600	600	600	600	600	450	450	600	600	770	1,409
300	810	600	600	600	450	300	450	450	600	600	300	300	600	600	1,410	750	1,170	770	1,433
1,260	600	960	960	810	900	1,260	1,290	960	750	600	1,020	1,380	1,320	2,010	900	510	1,110	770	1,822
750	750	750	750	750	750	750	1,110	900	750	635	960	750	1,320	750	300	750	750	770	1,653
750	600	750	750	750	750	660	750	900	450	750	710	450	750	600	450	750	750	770	1,480
900	450	1,110	600	750	750	...	300	150	...	300	450	750	900	960	435	750	960	770	1,469
690	750	450	750	750	300	450	600	600	600	450	710	...	150	675	915	450	660	770	1,414
600	600	710	1,020	970	870	870	1,230	750	750	1,410	450	1,380	1,410	1,320	1,590	810	1,230	770	1,735
630	675	735	600	600	420	510	720	300	710	660	420	1,215	600	810	1,020	1,185	660	770	1,518
525	750	1,125	750	750	930	600	900	1,170	750	750	990	750	960	960	900	1,110	1,020	770	1,605
900	1,620	1,740	1,950	1,800	1,530	1,890	960	1,260	1,260	1,440	1,230	1,530	1,320	1,230	1,800	1,905	930	770	2,158
330	510	600	600	600	600	540	300	660	210	240	300	450	450	720	310	735	510	770	1,380
1,110	1,035	600	600	615	300	600	1,050	600	840	810	975	870	1,050	750	660	810	1,020	770	1,573
1,035	675	990	1,110	1,170	675	960	1,140	960	960	2,475	480	1,170	1,785	1,470	1,935	930	1,620	770	2,063
750	630	975	1,110	1,080	510	780	810	1,140	900	900	570	1,110	1,530	1,500	990	675	1,350	770	1,903
900	900	1,170	750	810	750	900	750	750	750	960	900	810	750	855	960	660	750	770	1,582
900	675	840	450	690	600	810	300	300	300	750	510	600	870	990	690	300	1,065	770	1,474
																	750		1,447

Nor is Hassin alone in his stand inasmuch as Sepp¹⁴, Howe¹⁵, Dandy and Blackfan¹⁶, also favor a general absorption of cerebrospinal fluid.

It was the writer's privilege to see some of Dr. McQuarrie's excellent work with water restriction in cases of convulsions at the Strong Memorial Hospital and to have his assistance in preparing diets and general directions carried out in this work. Dr. McQuarrie also came to the institution during the progress of the investigation talking over some of the cases. For a period of four weeks prior to starting this water restriction and modified ketogenic diet, 25 patients were placed in a building and given regular Colony diet and allowed to drink all the water they desired, day and night. An accurate record was made and to this was added the water in the food. Table No. VI shows the amount of water consumed by these patients.

All sedation was taken away from these cases with the exception of two with whom it was found impossible to withdraw luminal and consequently this was continued in 1½ gr., doses daily.

The following is a brief abstract of history of these 25 cases:

7288. White, female, age 22 years, single. Telephone operator. Family history: Father died of tuberculosis at 45 years. Patient is fourth in line of birth of four girls, one of whom died of diphtheria. Personal history: Negative throughout with the exception of tonsillectomy, measles and whooping cough at ages not given. History of epilepsy: Onset at 19 years; no aura.

6195. White, female, age 28 years, single. Native of U. S. German parentage. Family history: Father died at 38 years, cause unknown. Mother died at 32 years, of tuberculosis. Patient is first in line of birth of three boys and two girls. One brother died at 21 years, of tuberculosis. One sister is feeble-minded. Personal history: Negative. History of epilepsy: Onset at 16 years; seizures are grand mal; no aura. Subject to religious manias.

5339. White, female, age 23 years. Native of U. S. Family and personal history unknown. History of epilepsy: Onset at 11 years; aura described as laughing attacks.

6301. White, female, age 20 years. Native of U. S. German parentage. Family history: Father living; mother died at 36 years, of infection following childbirth; paternal grandfather died of tuberculosis. Patient is sixth in line of birth of five boys and four girls. One boy died of convulsions due to poisoning. Mother had one miscarriage. Patient's brother is epileptic. Mother's brother is epileptic. Patient's brother is syphilitic. Father is dull mentally, syphilitic and brutal. Personal history: Negative. History of epilepsy: Onset at 6 years; both grand and petit mal.

7113. White, female, age 12 years. Native of U. S. Father deserted family. Patient is first in line of birth of two girls. Grand aunt had epileptic attacks at age of 18 years, for a period of 8 years, following operation, later recovered. Personal his-

tory: Full term child, shoulder presentation; convulsions during teething; measles, whooping cough, tonsillectomy at ages unknown. History of epilepsy: Onset at 3 years; grand and petit mal.

7027. White, female, age 11 years. Native of U. S. Family history: Negative with the following exceptions: Maternal grandmother is in Allentown State Hospital; one aunt subject to epileptic seizures. Mother deserted family. Personal history: Born at full term; convulsions at teething; suffered from swollen glands; measles and whooping cough, at ages unknown. History of epilepsy: Onset at 5 months; left side of body first and most often affected.

7091. White, female, age 16 years. Native of U. S. Italian parentage. Family history: Mother died of influenza at 32 years. Third in line of birth of one boy and four girls, all of whom seem normal. Personal history: Negative except as follows: Measles at 8 years, whooping cough at 5 years. History of epilepsy: Onset at 8 years; seizures are grand mal. No aura. History of fall at unknown age when she received injury over left frontal region.

6230. White, female, age 14 years, single. Native of U. S. First in line of birth of two girls. Maternal grandmother had nervous prostration and maternal aunt "faints." Personal history: Breech presentation; 36 hours duration of labor; indigestion when an infant; whooping cough at 2 years, measles at 5 years. History of epilepsy: Onset at 4 years; grand and petit mal; no aura. Destructive and rough.

5938. White, female, age 19 years, single. Native of U. S. Sixth in line of birth of two boys and four girls, all living. Family history: Negative. Personal history: Measles and whooping cough at unknown ages; pneumonia at 3 years. History of epilepsy: Onset at one year; no aura.

6253. White, female, age 13 years. Italian and American parentage. Fourth in line of birth of one boy and three girls, all living. Personal history: Measles at 3 years, otherwise negative. History of epilepsy: Onset at 5 years; grand and petit mal; no aura.

6609. White, female, age 17 years. Native of U. S. Father died at 38 years of abscess of lungs following an automobile accident. First in line of birth of 2 girls. Father slightly alcoholic. Personal history: Instrumental delivery, apparently no injury; at age of 6 years fell from a chair; attacks began about one month later; whooping cough and measles at 10 years; onset of epilepsy at 6 years; seizures grand and petit mal; no aura.

6934. White, female, age 12 years. Native of U. S. Father died at age unknown of broken neck. Patient born out of wedlock. Mother is said to be immoral. Paternal uncle epileptic. Personal history: Rickets at 3 years; operation to straighten legs. Treated for gonorrhea at Staten Island Hospital. History of epilepsy: Onset at 2½ years. Given starvation treatment for epilepsy.

7299. White, female, age 7 years. Native of U. S. Family history: Second in line of birth of 2 boys and 3 girls, all living. Personal history: measles and whooping cough, tonsillectomy at ages unknown. History of epilepsy: Onset at 3 years; no aura.

7093. White, female, age 29 years, single. Native of U. S. Father died at 45 years, accident. Mother died at 49 years, gastric operation. Father's mother committed suicide. Second in line of birth of two girls, other girl died, cause of death unknown. Personal history: History states that patient was born two months over term? Cried constantly as an infant. Measles and whooping cough at unknown ages. History of epilepsy: Onset at 17 years; no aura; grand and petit mal.

7535. White, female, age 19 years. Native of U. S. Mother died at 40 years of typhoid fever. Patient is third in line of birth of 2 boys and 2 girls. One boy died at 10 months, typhoid fever. Father alcoholic. Personal history: Measles at 4 years. History of epilepsy: Onset at 13 years; no aura; great many petit mal seizures, both nocturnal and diurnal. Uses tobacco and drinks to excess. Is probably immoral.

6802. White, female, age 17 years, single. Native of U. S. Family history: Mother dead, age and cause unknown; maternal grandmother insane; mother stated to have been insane. Personal history: Instrumental delivery, otherwise negative; measles at 5 years. History of epilepsy: Onset at 10 years; aura described as feeling afraid.

7075. White female, age 20 year, single. Native of U. S. Patient is fifth in line of birth of 4 boys and 2 girls but all brothers and sisters had convulsions during teething. Paternal aunt had epilepsy. Paternal uncle in Buffalo State Hospital. Personal history: Negative except measles at 3 years. History of epilepsy; onset at 16 years; both grand and petit mal.

7010. White, female, age 21 years, single. Native of U. S. Family history: Father died at 52 years, of locomotor ataxia. Patient sixth in line of birth of 3 boys and 5 girls. Personal history: Operated on for mastoid and tonsils removed at age not given. Measles at 2 years. Smallpox at 3 years; Wassermann, negative. History of epilepsy, onset at 15 years. No aura; right side first and most often affected; grand mal in type; occasionally hysterical.

7002. White, female, age 28 years, single. Native of U. S. Father killed in World War. Mother in Binghamton State Hospital. Patient only child. Personal history: Negative. History of epilepsy: Onset at 12 years; no aura; grand mal in type; left side first and most often affected.

7116. White, female, age 16 years, single. Native of U. S. Family history: Father died at 48 years, cardio-renal disease; mother died at 44 years, apoplexy. Patient is eighth in line of birth of 6 boys and 3 girls. Mother had two miscarriages. Mother subject to periodical headaches. Father alcoholic. Personal history: Negative. History of epilepsy: Onset at 2 years; grand and petit mal; no aura; automatic following seizures.

5757. White, female, age 14 years, single. Austrian parentage. Family history: Patient is third in line of birth of 1 boy and 3 girls, 1 boy and 1 girl died of measles. Personal history: Negative throughout except measles at unknown age. History of epilepsy: Onset at one year; no aura; grand and petit mal.

After a preliminary fasting of 12 hours all these patients were placed on from 25 to 44 c.c., of 40 per cent cream every four hours with no water intake, giving them a total of from 150 to 240 c.c. of 40 per cent cream every 24 hours. This period lasted for about 40 hours. Following this all patients were put on a diet having acid ash, moderately ketogenic as follows: Fat 140 to 180, proteid 50 grams, carbohydrates 50 grams. The total amount was varied according to age and weight of the individual and to maintain sufficient calories. At the same time all these patients were placed on water restriction varying with the individual, the amount depending chiefly on the amount consumed prior to the treatment. The quantities varied from 300 c.c. to 630 c.c. in 24 hours.

Table VII gives the average number of c.c. of water taken by the individual patient. To this is added in the next to the last column water in food. Thus it will be seen that the patients were restricted generally speaking to from one-third to two-thirds of the amount that they normally consumed. We endeavored to be guided to a certain extent by the obvious water needs, of the individual patient as shown not so much by the craving of the patient as by the dryness of the body as evidenced by tongue, lips and temperature curve.

When Dr. McQuarrie visited the Colony about two weeks after the therapy was started he felt that we were not restricting water sufficiently. We then reduced the water for each patient in amounts varying from 50 to 150 c.c., and in addition put them on a strictly ketogenic diet, which would in itself assist dehydration. This was followed out for a week at the expiration of which time the weather became extremely warm and all patients were running an elevation of temperature of from one to three degrees and from the writer's viewpoint showed quite marked symptoms of dehydration. Water intake was then raised from 50 to 120 c.c., per day greater than that given to the third week of treatment. This resulted in reducing the temperature to normal and we were unable to see any change in the character or frequency of seizures with the exception of one case which will be discussed later. The effect of this treatment on occurrence of seizures, which was what we were most interested in, is shown in Tables VIII, IX, and X.

Table No. VIII shows the number of seizures during the period prior to the treatment; No. IX, the number of seizures during the period of treatment; and No. X, the number of seizures following the period of treatment. To save space, as in our other tables, we tabulated daily only the number of seizures regardless of grand mal or petit mal. However, the totals for the period will be found in the right hand columns of these tables.

It will also be noted that during the period of observation prior to water restriction there were 337 petit mal and 582 grand mal seizures recorded for this group of patients, averaging 67 petit mal and 116 grand mal seizures per week. There were two patients whom it was necessary to drop, one owing to inability to cooperate and the other due to a period of mental disturbance during the period of treatment. While on water restriction there were 480

REPORT OF RESULTS FROM USE OF KETOGENIC DIET

TABLE No. VII. GRAMS OF WATER CONSUMED BY SELECTED GROUP OF PATIENTS, JULY 13 TO AUGUST 21

Pat. No.	July										August										
	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2
2.	410	350	350	350	420	420	420	420	420	420	420	420	320	360	360	560	480	480	480	540	600
3.	630	600	500	600	600	600	600	600	450	420	420	420	380	360	360	620	480	480	480	480	480
4.	410	350	350	350	350	350	350	350	350	350	350	350	320	300	300	560	480	480	480	480	480
5.	330	300	250	250	250	250	300	300	300	250	300	250	260	240	240	520	480	480	480	480	480
8.	330	250	250	250	250	250	250	250	250	250	250	250	220	200	200	520	480	480	480	480	480
9.	330	250	250	250	300	300	300	300	300	250	300	300	260	240	240	520	480	480	480	480	480
10.	410	350	350	350	350	350	350	350	350	350	350	350	380	360	360	560	480	480	480	480	480
12.	330	250	250	250	250	250	250	250	250	250	250	250	220	200	240	520	480	480	480	480	480
13.	330	250	250	250	250	250	250	250	250	300	300	300	260	240	280	1860	1700	840	570	540	540
14.	410	350	350	350	350	350	350	350	350	420	350	320	350	300	300	560	480	480	480	480	480
15.	330	250	250	250	250	250	250	250	250	250	250	250	220	200	200	520	480	480	480	480	480
16.	410	350	350	350	350	350	350	350	350	350	350	350	320	300	300	560	480	480	480	480	480
17.	330	300	200	250	250	250	250	250	250	250	420	200	220	200	240	520	480	480	480	480	480
18.	410	420	420	420	420	420	420	420	420	420	420	420	380	360	360	560	480	480	480	480	480
19.	580	540	540	540	540	540	540	540	540	540	540	540	500	480	440	580	480	480	480	480	480
20.	330	250	250	250	250	250	250	250	250	250	250	250	220	200	200	320	480	480	480	480	480
21.	480	420	420	420	420	420	420	420	420	420	420	420	380	360	360	600	600	600	600	600	600
22.	630	600	600	600	600	600	600	600	450	420	420	420	380	360	360	560	480	480	480	480	480
23.	510	420	350	420	420	420	420	420	420	420	420	420	380	360	360	560	480	480	480	480	480
25.	320	250	250	250	250	250	250	250	250	300	300	300	260	240	240	520	480	480	480	480	480
26.	410	350	350	350	300	350	350	350	350	350	350	350	320	300	300	560	480	480	480	480	480
27.	320	350	350	350	350	350	350	350	350	350	350	350	320	300	300	560	480	480	480	480	480

TABLE NO. VII. GRAMS OF WATER CONSUMED BY SELECTED GROUP OF PATIENTS, JULY 13 TO AUGUST 21—(Concluded)

petit mal and 450 grand mal or a weekly average of 80 petit mal and 75 grand mal seizures, thus it will be seen that the petit mal seizures were increased 42 per cent and the grand mal seizures decreased 29 per cent. Following the treatment the petit mal seizures dropped to an average of 25 per week and the grand mal, rose to an average of 87 per week. Thus showing that the petit mal seizures increased and the grand mal seizures decreased during the modified ketogenic diet with water restriction treatment the same as in ketogenic alone. However, it should be realized that the personal equation of the individual recorder has to be taken into consideration, as occasionally one attendant will record a seizure as grand mal that another will record as petit mal.

The weights of these patients were taken daily but to save space they are recorded at weekly intervals in Table No. XI.

This will show a loss of weight varying from 2 to 7 kilograms, during the treatment in the majority of cases. The chief loss of weight came during the first two weeks of treatment as would be expected.

Cases Nos. 2, 10, 13, 21, 23 and 25, showed the greatest loss of weight and of these Nos. 2, 13, 23 showed improvement so far as the number of seizures were concerned. Thus 50 per cent of those showing the greatest loss of weight were improved. Cases Nos. 10, 21 and 25 showed quite a marked increase in the number of seizures during the treatment. Other things being equal, this would seem to suggest that the loss of weight from dehydration in these cases caused a decrease in seizures in only 50 per cent of the cases. On the other hand Case No. 9 lost only 0.6 of a kilogram, but showed slight improvement relative to seizures. No. 18, with a loss of a little under 2 kilograms, showed a decided improvement so far as seizures were concerned and this patient had been under ketogenic treatment several years ago. No. 20, with a loss of 1.2 kilograms, showed a marked improvement in seizures, 7 petit mal and 29 grand mal before as against 8 petit mal and 8 grand mal during treatment. No. 22, with a loss of weight of only 1.2 kilograms, showed quite a marked decrease in grand mal seizures with only a slight increase in petit mal seizures. Thus it would seem that the improvement in some of our cases was not necessarily dependent on an excessive loss of weight.

TABLE NO. X. SEIZURES OF A SELECTED GROUP OF PATIENTS FOLLOWING WATER RESTRICTION, AUGUST 23 TO SEPTEMBER 20

Pat. No.	August							September							Total							Average per month since											
	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	P.	G.	P.	G.
2.	2	1	1	2	1	1	1	3	3	—	—	—	1	—	—	—	—	—	1	2	—	—	—	—	—	—	1	1	—	9	11	27	21
3.	4	4	2	3	2	2	3	4	2	2	1	1	3	2	1	1	2	3	3	3	1	2	—	3	3	—	3	—	3	19	44	5	56
4.	1	—	1	—	—	—	—	—	—	—	—	3	1	—	2	1	—	—	—	—	—	—	—	1	—	1	—	—	—	5	7	2	18
5.	—	—	—	1	3	—	1	—	—	—	—	—	—	1	1	—	9	—	2	—	1	—	—	—	—	—	3	—	—	2	20	1	20
8.	—	2	2	3	6	3	1	1	—	—	—	—	1	—	1	—	3	1	—	1	1	—	—	—	—	—	—	—	—	2	23	22	16
9.	1	—	—	—	4	—	—	—	—	—	—	—	1	—	1	—	—	—	1	1	—	1	1	—	—	—	1	—	—	..	12	1	4
10.	—	2	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	3	1	1	—	—	—	—	—	—	—	—	—	..	9	1	6
12.	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	..	2	2
13.	1	—	2	—	1	2	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1	1	—	1	—	3	9	1	7
14.	1	2	1	3	5	—	3	3	1	1	2	—	—	1	1	1	—	1	—	1	—	—	—	—	—	—	—	—	—	10	19	..	10
15.	2	3	3	—	1	9	4	7	2	3	—	1	—	4	3	3	2	—	2	2	1	3	4	1	3	5	1	—	—	6	63	1	3
16.	1	—	1	—	—	—	2	1	—	1	—	1	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	2	6	..	9
17.	1	—	4	1	1	1	—	—	2	4	—	—	1	—	1	—	1	—	2	—	—	—	3	2	1	—	1	3	—	3	26	2	10
18.	1	1	4	1	1	1	—	1	1	—	—	1	—	2	1	1	—	1	—	1	—	1	—	1	1	—	—	—	—	13	6	22	8
19.	21	—	4	—	2	3	—	6	9	—	—	1	3	—	1	3	—	1	2	5	1	—	1	—	1	1	—	—	—	54	6	19	20
20.	—	1	2	1	1	—	1	—	—	1	—	—	—	2	—	—	1	—	1	—	1	2	—	—	—	—	—	—	—	2	12	4	15
21.	—	1	2	—	—	2	2	—	—	1	1	—	1	—	—	—	1	—	—	—	—	2	—	—	—	—	1	—	—	..	13	..	25
22.	1	1	—	1	1	2	1	—	4	—	—	1	2	2	2	3	—	—	3	3	1	5	4	3	2	1	1	2	—	23	22	24	18
23.	—	—	—	—	—	3	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	3	4	..	13
25.	—	1	—	—	1	2	3	1	5	3	2	1	1	2	1	—	1	—	1	—	2	1	—	2	—	—	—	—	—	20	9	3	18
26.	—	4	—	1	—	2	—	2	—	—	1	—	—	—	—	1	—	—	1	—	1	—	1	1	—	1	1	—	2	14	2	10	
27.	—	—	3	—	1	3	2	—	—	—	—	—	—	—	1	—	—	1	—	1	—	1	—	—	—	—	2	—	—	1	13	..	14
Total																183		349		117		323											

In only two cases did we find an increase in weight, Nos. 8 and 17; in the first of these there was a marked increase in seizures and in the second marked increase in petit mal seizures with a slight decrease in grand mal seizures. Thus the one who showed a gain in weight balance each other so far as improvement in seizures is concerned.

Mental improvement was shown to be very marked in two cases out of the 25. No. 14 showed improvement in her seizures with but a moderate loss of weight. When placed under treatment she was dull, sluggish, apathetic, very slow in her movements and had a slow mental reaction. This child brightened up, became much more active, less irritable and more agreeable and did not seem like the same person.

No. 20, who had only a moderate loss of weight, 1.2 kilograms, but showed a marked improvement in seizures, particularly the grand mal seizures, she also improved mentally to quite a marked degree while under treatment.

No. 8, making a gain of 1.8 kilograms, and almost trebling her grand mal seizures under treatment, showed quite a marked mental improvement. Thus we have 4 cases out of 25 showing a mental improvement under this regimen.

The output and intake of these cases was kept daily for the entire period of observation and treatment but to save space one week from each has been selected.

Tables Nos. XII and XIII denote the intake and the output of these cases for one week during the period of observation and for the same length of time during treatment.

Nos. 3, 9, 10, 13, 15, 17, 20 and 25 seemed to show a tendency to water retention prior to treatment, that is to say these patients out of the entire group had considerably less output than intake.

During the period of treatment Nos. 8, 14, 15, 20 and 22, seemed to show a tendency to excrete markedly less than they consumed and of these cases only four, Nos. 9, 13, 14 and 20, showed any improvement either mentally or as to seizures.

Only a few of our cases seemed to show a tendency toward polyuria following seizures. However, the writer feels that this might possibly be the result of the seizure itself, inasmuch as we know there is not only a congestion in the brain but also in all of the

organs including the kidneys during attacks. We did find in some of our cases that there was a very marked difference between the amount of water taken in and the amount excreted by the kidneys. However, we were carrying out this treatment during extremely hot weather and patients were not in bed but allowed to move about freely and a large amount was lost by skin and no account was taken of this or the amount lost by stool.

As regards specific gravity, this was taken daily. The specimen was usually taken in midday or before noon and the specific gravity varied from 1,020 to 1,036, the average readings being around 1,029 to 1,030, which would indicate that we were restricting the water to quite a marked degree and the writer is inclined to feel that had a 24-hour specimen been used the specific gravity might have been higher.

For the first ten days or two weeks none of our patients showed evidence of marked dehydration other than complaining of extreme thirst. Their complaints along this line were very bitter. They were given Celu gum to chew for purpose of allaying thirst and at the expiration of 15 days to 3 weeks nearly all of the cases presented dryness of the tongue and lips. The temperature in all these cases during the first five days rose from 99.5° to 101.8° two or three going as high as 102° . However, after the first five days temperatures gradually became more normal, but nearly all of them continued elevated from 0.5 to 1 degree above normal during the entire first week of treatment. On the 27th and 28th of July following two days of markedly high atmospheric temperature all cases showed an elevation of body temperature varying from 99.2° the lowest to 102.8° the highest. All of the patients with the exception of two showed an elevation of temperature of over 100° and several of them 101° to 102° with some prostration and marked dryness of the mucous membranes. On these two particular days there was a total of 20 seizures each day in the entire group of patients as compared to a daily average over the entire period of treatment of 21+. Thus it will be seen that the seizures did not decrease in our cases under dehydration with an increase in body temperature. We then increased the fluid intake on these cases from 40 to 150 c.c., per patient per day without any relative change in the frequency or character of the attacks.

TABLE NO. XII. INTAKE AND OUTPUT OF SELECTED GROUP OF PATIENTS FOR ONE WEEK, PRIOR TO WATER RESTRICTION

Pat. No.	July 2		July 3		July 4		July 5		July 6		July 7		July 8	
	Intake	Output	Intake	Output	Intake	Output	Intake	Output	Intake	Output	Intake	Output	Intake	Output
2.	1,500	1,140	1,650	1,130	1,800	1,060	1,500	820	1,550	320	1,800	1,550	1,650	610
3.	1,540	995	1,500	960	2,400	2,060	1,770	720	1,640	1,630	2,070	1,250	2,010	1,610
4.	1,650	1,260	1,350	980	1,500	460	1,500	890	1,710	560	1,710	1,380	1,500	710
5.	1,200	1,290	1,350	800	1,200	480	1,200	890	1,350	690	1,350	1,200	1,350	1,040
8.	1,500	1,170	1,500	1,840	1,500	840	1,500	810	1,500	460	1,350	840	1,350	1,150
9.	1,350	640	1,500	660	1,500	410	1,200	210	1,350	460	1,500	630	2,310	220
10.	1,860	1,540	1,650	440	1,500	330	1,920	620	2,070	520	2,920	470	1,800	80
12.	1,800	2,240	1,650	1,580	1,910	1,230	1,860	1,430	1,656	840	1,650	1,400	1,200	640
13.	1,500	1,060	1,350	740	1,650	1,620	1,710	800	1,350	640	2,130	660	1,350	930
14.	1,050	900	lost	...	1,200	1,440	1,710	lost	1,650	620	1,860	1,740	1,320	1,480
15.	1,500	1,050	1,500	960	1,350	500	1,710	220	1,560	150	1,710	240
16.	1,650	1,470	1,650	810	2,320	1,180	1,350	720	2,070	1,630	2,220	1,990	2,490	1,550
17.	1,200	330	1,710	730	1,560	340	1,320	lost	1,995	370	1,710	900	1,920	230
18.	1,770	1,400	1,650	1,130	1,650	830	2,220	940	1,650	1,400	1,800	900	1,800	680
19.	1,860	2,040	2,160	2,100	2,360	870	2,130	1,710	2,120	1,820	1,920	1,040	2,700	1,270
20.	1,570	380	1,110	670	1,140	640	1,200	130	1,350	280	1,620	300	1,410	230
21.	1,500	1,620	1,740	1,280	1,710	800	1,880	770	1,770	1,090	1,650	860	1,560	470
22.	2,050	1,570	1,860	1,470	2,370	1,010	1,380	1,060	2,070	1,085	2,370	1,170	2,820	1,120
23.	1,710	2,880	2,040	2,080	1,800	550	1,470	1,980	1,800	1,140	2,385	2,390	1,800	1,820
25.	1,350	920	1,650	1,300	1,860	170	1,800	370	1,710	1,010	1,740	470	1,860	360
26.	1,200	2,920	1,200	700	1,650	680	1,410	350	1,500	370	1,780	1,100	1,590	820

TABLE NO. XIII. INTAKE AND OUTPUT OF SELECTED GROUP OF PATIENTS FOR ONE WEEK DURING WATER RESTRICTION

Pat. No.	July 21		July 22		July 23		July 24		July 25		July 26		July 27	
	Intake	Output	Intake	Output	Intake	Output	Intake	Output	Intake	Output	Intake	Output	Intake	Output
2.	923	650	923	410	923	740	923	660	570	580	610	670	610	640
3.	968	310	938	420	738	580	938	440	630	540	610	550	610	330
4.	824	410	840	400	840	530	904	390	570	360	550	570	550	600
5.	825	300	875	440	825	310	775	560	510	300	490	500	490	530
8.	760	220	760	280	760	290	860	290	470	380	550	420	550	260
9.	762	440	712	480	762	570	762	560	510	620	490	450	490	700
10.	801	480	801	660	801	510	881	280	530	410	610	300	610	780
12.	787	520	787	520	787	510	787	480	470	540	550	540	490	500
13.	796	740	846	690	846	370	846	660	510	750	490	260	530	500
14.	818	300	818	520	888	330	818	280	570	...	550	240	550	400
15.	775	260	775	100	775	450	775	260	470	270	550	500	550	420
16.	860	560	860	530	860	530	860	520	570	500	570	410	550	490
17.	704	300	704	470	754	300	704	620	470	440	450	400	490	450
18.	921	460	921	525	921	500	921	440	570	490	610	605	610	510
19.	991	480	991	620	991	320	991	400	470	420	730	670	690	480
20.	760	360	760	260	760	370	760	320	630	360	550	300	550	620
21.	957	570	951	340	957	400	887	590	750	620	610	500	610	570
22.	997	780	967	330	967	410	967	300	470	280	610	520	610	340
23.	844	380	844	520	844	490	844	560	510	420	619	490	610	560
25.	757	350	807	850	807	280	807	510	630	490	490	610	490	490
26.	860	360	860	260	860	520	860	590	630	590	550	550	550	800

TABLE NO. XIV. AGE, DURATION OF EPILEPSY, CLASSIFICATION AND MENTAL AND PHYSICAL CONDITION OF A GROUP OF PATIENTS SELECTED FOR TREATMENT

Pat. No.	Age, years	Duration of epilepsy, years	Mental age, years	Classification	Physical condition	Mental condition
2.	22	3	11	Idiopathic	Good	Deteriorating
3.	28	12	11 3-4	Idiopathic	Fair	Deteriorating
4.	23	12	10 1-2	Idiopathic	Good	Moron
5.	20	14	8 1-2	Idiopathic	Good	Deteriorating
8.	12	9	8	Idiopathic	Fair	2 years retarded
9.	11	11	6	Idiopathic	Good	Good
10.	16	8	7 2-3	Head trauma	Good	Good
12.	14	10	Nor.	Idiopathic	Good	Deteriorating
13.	19	18	6 1-4	Idiopathic	Good	Deteriorating
14.	13	8	6	Idiopathic	Good	Badly deteriorated
15.	17	11	7 1-3	Idiopathic	Good	Very dull
16.	12	7	7	Idiopathic	Good	Good
17.	7	4	Nor.	Idiopathic	Good	Good
18.	29	12	Nor.	Idiopathic	Badly deteriorated	Badly deteriorated
19.	19	5	12	Idiopathic	Poor	Good
20.	17	7	10	Idiopathic	Good	Good
21.	20	4	Nor.	Idiopathic	Good	Rapidly deteriorating
22.	21	6	Nor.	Idiopathic	Poor	Good
23.	31	4	11	Idiopathic	Good	Fair
25.	28	16	Nor.	Idiopathic	Good	Good
26.	16	14 1/2	10 2-3	Idiopathic	Good	Deteriorating
27.	14	13	5	Idiopathic	Good	Primarily defective

By Table No. XIV, we find that our cases showing improvement, namely Nos. 2, 9, 13, 14, 18, 20, 23 and 26, all fall under idiopathic or unclassified group, thus verifying our findings under the ketogenic diet that the cases showing the greatest tendency toward improvement were those of the idiopathic type.

McQuarrie's average intake in his cases who were symptom free was around 500 to 700 c.c., with our cases it ran from 757 to 997 c.c., depending upon the amount the patient was formerly taking and the amount of dehydration showed by the individual. Thus it will be seen that we did not reduce water among our cases to quite the extent that was done at the Strong Memorial Hospital. However, the writer feels that they were dehydrated all that they could be with comfort and safety.

One case, No. 13, to all appearance reacted favorably to water restriction so far as seizures were concerned. This case was averaging one seizure every other day prior to treatment. During the treatment beginning on the 13th, she went 19 days without a seizure. However, on July 30, she collapsed and was placed in bed with a temperature of 103.8, pulse 132, rapid and weak. Patient critically ill. This girl showed very marked evidence of dehydration as shown by extreme dryness of mucous membranes of mouth and eyes. Tongue was very dry and furrowed. Water was forced immediately. She was given during the next 12 hours 1,800 c.c. of water. She showed a retention of water following the administration of 1,800 c.c., extra water, which of course in her dehydrated state would be expected. On August 3, 4, 5, 6, and 7, this girl had a total of seven seizures. Water was again restricted and she went without a seizure until August 22, when she had two. The writer feels that this case was unquestionably improved by water restriction so far as seizures were concerned but seems to be the only outstanding one in our series. Other cases recorded showed some improvement in seizures but not to the extent shown by the last mentioned.

Comment: It is quite striking that two men working independently as McQuarrie and Fay, should come to practically the same conclusions as to the effect of water restriction in cases of convulsions. McQuarrie feels that the convulsion is due to the pressure caused by the cerebral oedema. However, cerebral oedema and

pressure occurs in cases other than epilepsy. For example in hydrocephalus we have a very marked increase in intracranial pressure but we do not have convulsions in all such cases, not in even a large minority.*

Fay expresses the opinion that convulsions are due to pressure unrelieved by the normal absorption of the cerebrospinal fluid through the Pacchionian bodies in the meninges of epileptics. However, he finds practically the same pathology in conditions not showing convulsions. The dehydration theory did at first seem to me to nullify any toxic theory. However, who is able to say that in dehydration we do not deprive the tissues of a certain amount of water that might be necessary for a solution of a toxin which if it bathed the cerebrospinal system would cause convulsions?

According to personal communication from pediatricians and others who have treated cases of cholera infantum and such conditions wherein there is a marked dehydration in the patient, fluid should be forced in these cases otherwise convulsions may ensue.

So far as convulsions are concerned it is practically impossible to differentiate between epileptic, eclamptic, alcoholic, uremic or parietic by the convulsion alone, but all cases manifesting convulsions are not epileptic any more than are all cases showing albumen nephritic. Those conditions showing convulsions other than epileptic differ from the epileptic in one very important particular, they either die or recover in a relatively short time, in other words they lack the chronicity of epilepsy.

There are certain clinical features familiar to all who work in institutions for epileptics which might show that if we dehydrated our patients we get beneficial results in seizures. For example, it has long been the custom to give magnesium sulphate twice a week, not, the writer must confess, for dehydration purposes but to clear out the gastro-intestinal tract. However, although it does have the effect of dehydration, the writer is inclined to feel that the patients will drink water enough after they have taken the magnesium sulphate to counter-balance any dehydrating effect that may have taken place. We also know that during a series of epileptic attacks some patients perspire freely, thus showing another source of elimination of fluids.

One need be in an institution for epileptics but a short time to

* Personal communication from institutions having such cases under their care.

realize that epileptics vary a great deal as to reaction to therapy. For example one soon learns that in one patient having status epilepticus this condition can be stopped with soap suds enemata while with another the only way status can be controlled is by the administration of chloroform. Then luminal sodium in proper doses will control status in some, whereas this remedy will not relieve convulsions in other cases. The writer believes that in the symptom complex called epilepsy there is an unknown factor "X", and he feels that we must take into consideration all forms of treatment.

CONCLUSIONS

1. Of 16 cases tried on ketogenic diet at Craig Colony, we found that 6 were improved in so far as their seizures were concerned. The chief improvement being, however, the changing of the attack from grand mal to petit mal type. In no case did we find complete cessation of seizures.
2. The diet very soon became extremely monotonous, owing to the high fat content.
3. The degree of ketosis varies somewhat from day to day in the same patients.
4. The writer feels that this method of treatment should be tried in every early case of convulsions of unknown origin that does not respond to luminal promptly.
5. We found that in actual food cost alone this treatment would increase the cost of maintenance at least 33 1-3 per cent.
6. Out of a total of 26 cases in which modified ketogenic diet and water restriction therapy was tried we found one with whom the writer believes it could be called a success. Six patients showed quite marked improvement with respect to the occurrence of grand mal seizures. Two more showed slight improvement. The rest showed no improvement or apparently had an increase of seizures under treatment.
7. Cases that could not be controlled and were dropped showed no increase in seizures after returning to Colony life and taking large quantities of water within the first 24 hours.
8. Occasionally patients will become too much dehydrated and collapse with hyperthermia which is in itself a serious symptom.

9. Only a part of our patients showed any polyuria following seizures.

10. A patient on water restriction will resort to any subterfuge to obtain water, some of ours even trying to drink drops of rain on the leaves of a vine, sucking a damp wash cloth, etc.

11. To enable an institution of this type to carry out the treatment successfully the personnel would have to be at least trebled.

I wish to express my appreciation to Dr. William T. Shanahan, superintendent of Craig Colony, for making available personnel and turning over from special fund finances with which to carry on this treatment; to Dr. Irvine McQuarrie, pediatrician, Department of Medicine, Strong Memorial Hospital, Rochester, N. Y., for his very valuable help to the writer in preparing and carrying out the treatment; and to Dr. J. C. Partridge, senior assistant physician, Craig Colony, who carried on the work for the last 10 days during the writer's absence.

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BRAIN TUMORS*

Their Pathology, Symptomatology, Diagnosis, and Prognosis

BY LEO M. DAVIDOFF, M. D.

PART V

PROGNOSIS

The prognosis as to recovery of complete health, and even as to life limited by a permanent disability, in cases of brain tumor, is still so gloomy, that one must seek consolation not in the present state of our power to treat this condition, but rather in our power as compared to that of a few generations ago. And in view of our progress, we may hope for continued improvement in the knowledge and skill which arm us for combat with this dread enemy of humanity. This view cannot be better expressed than in the eloquent and prophetic words with which Dr. Cushing closed his Cavendish lecture on "The Meningiomas."

He says: "Though brain tumors are astonishingly common lesions, and much has been done to clarify their symptomatology, as well as to perfect methods of treating them, we still are only at the threshold of the subject. For its development, a group of special workers must arise—men thoroughly trained, not only in general medicine and surgery, but also in neurology and in the peculiar and fastidious operative technique which intracranial operations for tumor demand.

"We have reached the threshold with halting steps, and have been long on the way, as the prehistoric trephined skulls testify. Such as it is, our wider horizon has been reached by clambering on a pyramid of shoulders. It is a far cry from a piece of flint to a circular hand trephine, and another to the electrically-driven instruments now used in craniotomy. Without the amber and loadstone of Gilbert Stuart; without Michael Faraday, Henry Bessemer and a host of others, the dynamo, the electric motor and crucible steel would not have been in our hands. Glass-making, the lens, mathematical optics, a Helmholtz, and we are enabled to see the retina. Without the ophthalmoscope simplified for us because of Edison and the incandescent lamp; without Crookes and Röntgen

* Final instalment of a series of articles on this subject, which have appeared in consecutive numbers of THE PSYCHIATRIC QUARTERLY.

and the X-ray; without Albrecht von Graefe and the perimeter; without Bell and Magendie, Fritz and Ferrier, Jackson, Schafer, Horsely, Sherrington and others—who have contributed to the localization of cerebral function; without some knowledge of cerebrospinal fluid circulation; of the function of the choroid plexuses; of the pituitary and pineal glands; and finally, without Pasteur and Lister; without the chemists who have discovered the anaesthetics . . . ; without the microscope and tissue stains; without these things—and it is an endless chain—we would still be filing with a piece of flint, holes in the skull of those afflicted with epilepsy or insanity, to let out the evil spirits supposed to cause these disorders.

“What enables us, even in our present imperfect way, to detect, to localize, and finally, aided by all the paraphernalia of a modern operating room, to remove a brain tumor, is merely the application of most diverse fragments of knowledge contributed by countless workers in bygone ages, brought together from the ends of the earth and concentrated on a single act. The observation is commonplace enough. It is true of any performance we engage in, for all acts like all people, are somehow related, if we trace their genealogy far enough into the past.”

It is obvious that above all things, the prognosis in brain neoplasms is dependent upon the state of progress attained in their treatment. Only a few years after he had spoken the words just quoted, Dr. Cushing^{57, 60a} was chiefly instrumental in applying to the surgical treatment of brain tumors the high frequency electric cautery with the result that many tumors formerly thought inaccessible, or too vascular, or too infiltrating to be removed successfully in their entirety, have been so removed with complete recovery of the patients.

GLIOMAS

Spongioblastoma Multiforme. Naturally, even if in all types and locations of tumors the treatment has improved and will continue to do so in the future, there still remains the fundamental difference in the nature of the various growths. And unfortunately the fundamental nature of a large percentage of them is that of local malignancy. Over half of all brain tumors are gliomatous and about half of all gliomas are spongioblastomas multiforme.

These rapidly growing, infiltrating destructive lesions, even in the hands of the best trained neurosurgeons, cause death in their victims on the average of from six months to a year after the onset of symptoms. The introduction of radiotherapy following decompression and partial surgical extirpation has not served, except in rare cases of spongioblastoma multiforme, to prolong the patient's life. The experience of Bailey, Sosman and van Dessel²⁰, and of Hyslop and Lenz¹¹⁸ and others show that while an occasional case is benefited, others are as often harmed by the treatment. The probable explanation of the occasional deaths following X-ray treatment of spongioblastoma multiforme is a rupture of one of the thin-walled venous sinuses in the growth as a result of the hyperemia. X-ray treatment, in any case, for a variety of reasons, if undertaken before operation, is scientifically unjustifiable and cannot but result in harm. In the most apparent cases, without verification, the diagnosis of brain tumor may conceivably be wrong. The localization of the tumor may be in error. The tumor may be of a variety which is resistant to roentgentherapy and yet easily removable surgically, and much valuable time may be lost. Finally, given a tumor accurately localized and one that is amenable to X-ray therapy, the very first dose, in the absence of a decompression, may result in edema with fatal increase in intracranial pressure.

Other Gliomas. Other gliomas are usually less rapidly fatal than the spongioblastomas multiforme, and especially with the aid of skillful surgery may result in average survival periods following the onset of symptoms of five to seven years or more. The following table is a summary of the average survival period in Dr. Cushing's clinic:¹⁹³

	Months
1. Medulloblastoma	15
2. Neuroepithelioma (no examples)	
3. Spongioblastoma multiforme	12
4. Pinealoma	18
5. Ependymoma	25+
6. Astroblastoma	28+
7. Spongioblastoma unipolare	46+
8. Oligodendroglioma	66+
9. Ganglioneuroma (no examples)	
10. Astrocytoma:	
Protoplasmicum	67+
Fibrillare	86+

Some of these are more amenable to radiotherapy than the spongioblastomas multiforme. For example: Bailey, Sosman and van Dessel have reported 12 cases of medulloblastoma in which the combination of surgery and radiotherapy has resulted in an average survival period of 34 months, as compared to 15 months in Cushing's entire series of this type of tumor. The theoretical conception of Ewing that the more embryonic the cells making up the tumor the more easily they should be destroyed by radiation seems on the whole to be borne out by the experience of the last named investigators as well as other workers.

In addition to these recorded survival periods before recurrence or death, there may be actual cures of gliomatous tumors. Bailey and Cushing indeed were stimulated in their classification of these tumors by this great variability for they were at a loss to know—"how it could be that a patient from whose cerebellum a large tumor diagnosed a glioma, was removed as long ago as 1906, might prove to be living and well, the father of a family, and a wage-earner 19 years later, whereas another patient from whom a 'glioma' happened to be removed in like fashion, supposedly in its totality, might survive a scant six months before a rapid recurrence took place." Thus with an occasional cure and a frequent prolongment of life even in gliomatous tumors, the outlook for brain tumor patients is not so desperate as it is usually painted.

MENINGIOMAS

Other growths, like the meningiomas, present grave problems of surgical technique owing to their frequent inaccessibility and great vascularity. But modern neurosurgery is advancing with remarkable strides to combat these obstacles. The use of suction, hemostasis by means of fresh muscle, silver clips, transfusions of whole blood, the electric scalpel—all these combined with skill and judgment are leading to a daily improvement in the operative results. The operative mortality in all brain tumors has, as a result of these improvements, become remarkably reduced from 50 or more per cent to a general average of 14.8 per cent, in one clinic, and is constantly decreasing.*

* The following table summarizes the operative mortality rates in 1,642 verified intracranial tumors from Cushing's clinic which was reported by Eisenhardt, Louise, *Arch. Surg.*, 1929, xviii, p. 1927.

Diagnosis	No. of patients	No. of operations	Operative mortality
Gliomas (varia).....	690	946	19.4
Adenomas (pituitary)	302	337	6.2
Meningiomas ..*	206	368	11.4
Neurinomas	141	181	12.7
Congenital (largely craniopharyngeal)	99	145	12.4
Metastatic	64	62	20.9
Granulomas	46	45	28.8
Blood vessel tumors	29	39	7.6
Papillomas	11	19	16.7
Miscellaneous	54	68	11.7
Total	1,642	2,210	14.8

In such a flux it is impossible to stress percentages. One may simply say that meningiomas are for the most part non-infiltrating tumors, and that given an accessible situation and a skillful surgeon, may be removed in their entirety. Occasionally after the tumor is completely removed, the injury which the brain had suffered while the growth was pressing upon it may result in post-operative epilepsy. This may be combated by anticipating the first seizure and preventing its occurrence by the use of bromides or luminal immediately after operation. Quite frequently, especially the softer varieties of meningiomas break up in the course of extirpation and bits of them remain behind. These remnants may regrow into large tumors and two, three or an even greater number of operations at different intervals may be necessary until the entire tumor is removed. Rarely, neoplasms of meningeal origin are speedily growing, malignant growth which fail to respect the glial barrier to the invasion of the nervous tissue. These cases are rapidly fatal.

ACOUSTIC TUMORS

Among the most chronic tumors are the acoustic fibroblastomas. According to Cushing's analysis an average of four years of auditory symptoms exists before the onset of general pressure symptoms, which lead to hospital admission on an average of six months to a year after their onset. From then on the expectation of life with blindness and increasing discomfort, may be from six months to a year, without operation. With a simple, wide decompression an average of three to four years of relative comfort with vision preserved, may be expected, while following a more or less thorough enucleation from five years upwards is the mean survival period. At the time of his monograph, Dr. Cushing's operative mortality in these cases was 13.9 per cent.

About ten years later, Lehmann¹³² took up the whole question of operative mortality in suboccipital operations for all cerebellar and extracerebellar conditions undertaken in Cushing's clinic. He found a general operative mortality of 16.3 per cent divided as follows:

	No. of patients	No. of suboccipital operations	No. of deaths	Operative mortality, per cent
Various types of gliomas.....	129	189	26	13.7
Acoustic tumors	88	113	14	12.4
Ependymomas of the 4th ventricle and papillomas..	15	16	6	37.5
Tuberculomas	10	12	6	50.0
Meningiomas	9	11	2	18.2
Blood vessel tumors	7	17	3	17.2
Cholesteatomas and other tumors	8	10	2	20.0
Total	266	368	59	16.3

This is a most encouraging state, even though the ideal has not been reached, particularly when compared to figures of 40, 60, even 90 per cent mortality in days gone by in suboccipital operations. This is undoubtedly the most dangerous area in which to operate—both because of the difficult approach, and the proximity to the region of operation of the vital centers and the cranial nerve nuclei.

CONGENITAL SUPRASellar TUMORS

Another dangerous area to approach surgically is the infundibular region where other centers of vital importance are located. This makes the craniopharyngeal pouch cysts and tumors, benign in themselves, unsatisfactory for surgical treatment. The cysts are easily emptied with temporary relief, but attempts to remove the cyst wall, completely, often results in traction upon the infundibular region, which may cause a variety of serious symptoms such as intractable hyperthermia, diabetes insipidus, excessive adiposity and marked somnolence. These indeed may be preceded by sudden respiratory disturbance which can easily result in death unless energetically treated. The writer has twice seen cases of craniopharyngeal pouch cysts in which, during the operation for removal, the patient suddenly ceased all voluntary respiratory activity and was, in each case, kept alive only by continuous artificial respiration for periods in excess of half an hour. Complete removal is, therefore, always undertaken with trepidation and rarely accomplished successfully, while incomplete extirpations is always followed by recurrence. These patients go on to complete blindness, and eventually die as a result of a combination of disturbed vegetative and metabolic function and the appearance of increased intracranial pressure which comes as a result of the eventual blockage of the foramen of Monro or the posterior outlet of the third ventricle.

In the patients that are successfully operated, even when temporary disturbance of infundibular function appears after operation, recovery is complete, except in so far as the varying amount of permanent damage done by the pressure of the growth against the chiasm, the hypophysis, infundibulum, etc., is concerned.

PITUITARY ADENOMAS

With adenomatous tumors of the pituitary body itself the situation is markedly different. Here, in the first place, the pressure against the infundibular region is usually indirect, since the dural diaphragm stretching between the clinoid processes usually keeps the growth within the widened sella. The approach to its extirpation is not the same in the hands of all surgeons; some attack it from above, while others, notably Cushing and Frazier in this

country, transphenoidally. The question of removing the entire tumor is here not necessarily one of mechanical accessibility alone. It must be remembered that these growths are part of the gland itself, just as goitre, an analogy so frequently made by Dr. Cushing,⁵⁹ is a part of the thyroid gland, and total extirpation is undesirable. Particularly is this to be avoided in diseases of the pituitary, since no available substitution therapy exists as yet.

Fortunately the adenomas of the hypophysis are sensitive to radium and X-rays, so that the practice of decompression of the sella by a transphenoidal operation to eliminate the danger to the chiasm by pressure of the gland, especially following the edema resultant upon radiotherapy, and the application of X-ray therapy afterwards, is commonly carried out. This has resulted, in a considerable proportion of cases, not only in an improvement of local pressure symptoms but in the reestablishment, to a degree, of the normal glandular function.

OTHER TUMORS

Tumors of the pineal region, although not necessarily malignant, are seldom successfully dealt with surgically owing to their inapproachable position. Without surgical extirpation, on the other hand, life is not possible for very long on account of the mechanical obstruction to the cerebrospinal circulation by the neoplasm. Sometimes a pathetically small, benign growth is found at autopsy to account for the death of the patient simply because of its strategic situation in blocking the Sylvian aqueduct.

The blood vessel anomalies with tumor symptoms and the neoplasms of hemangioblastic origin differ in their effect upon the life and health of the patient in relation to the particular type of lesion to which they belong. The angiomas, both venous and arterial, are almost impossible to treat surgically because of the danger of fatal hemorrhage. Something may be accomplished, however, by tying some of the feeding vessels and then treating by radiotherapy in the hope of coagulating the blood contents of some of the abnormal vessels. This may result in considerable improvement in some cases.

The hemangioblastomas, characteristically situated in the cerebellum, and frequently cystic, are amenable to complete extirpation and cure. Only in these cases the prognosis must be guarded, since

as Lindau has shown, the cerebellar hemangioblastomas may be associated with other hemangioblastomas in the retinae, pancreas, kidneys, epididymi and other places.

Epidermoids, especially when they appear between the tables of the skull, prove very satisfactory for complete removal by surgical means with cure of the patient. These tumors when appearing at the base between the peduncles or in the posterior fossa may present insurmountable obstacles to a cure by surgery—which is the only cure possible for them.

Subdural hematomas, contrary to what might be expected, are removable without much danger of recurrence as a result of oozing from the dural surface. The complication in this type of lesion is the frequent presence of bilateral hematomas. Basilar hemorrhages produced by a similar mechanism as those over the vertex are more difficult to deal with as a result of their location.

The granulomas are as dangerous or as innocuous as the diseases with which they are associated. Tuberculomas cause death in the large majority of cases and gummas frequently are cured.

The whole matter of prognosis in brain tumors may be summarized as dependent upon three factors and the combination of these in any given case. There are: (1) The nature of the tumor; (2) the accessibility and physiological importance of the part of the brain involved; and (3) the skill and experience of the surgeon. Thus an encapsulated, not too vascular tumor, located in an area that results in early focal symptoms, and that can be easily reached through one of the standard approaches to the brain, and in the hands of a skillful surgeon, can, barring unforeseen accidents, be completely removed with the resulting cure of the patient. Those tumors that are benign in character but difficult to approach are the subject of most intensive study by neurosurgeons and many of them will eventually become amenable to removal. Even the slowly growing infiltrating growths, when operated early may be successfully extirpated. The most serious problem to the neurosurgeon remains, therefore, the considerable group of rapidly growing infiltrating gliomas, chiefly represented by the spongioblastomas multiforme, which, in spite of our improved methods, our knowledge, skill and experience, still kill their victims, on an average of from 6 to 12 months after the onset of symptoms.

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THE USE OF STRAMONIUM IN THE TREATMENT OF ENCEPHALITIS*

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Among the most stubborn of nervous and mental diseases to yield to therapeutic measures are the cases of encephalitis with Parkinson syndrome. The varying combinations of symptoms which give the patient the most discomfort include tremors, rigidity, dysphagia, ptialism, oculogyric crises, mental retardation, catatonic postures, festination, and myalgia.

In the treatment of these symptoms a variety of drugs and treatments has been used from time to time both for the curative effect and in an endeavor to alleviate the symptoms. Among the best known of these remedies are: hyoscine-hydrobromide, atropine, bromides, adrenalin, nicotine, picrotoxin, pilocarpin, bulbocarpine, various endocrine preparations, gelsemium, sodium salicylate, injection of foreign protein, sodium iodide (intravenously), gentian violet (intravenously), malarial inoculation, Rosenow's serum (intramuscularly, intravenously and intraspinally), Marinesco's autoserum (intraspinally), Royle's sympathectomy, hydrotherapy, and passive exercises. Of these varied therapeutic agents little or no benefit was derived from any except those belonging to the Solanaceae group, namely, atropine and hyoscine.

The Solanaceae group consists of belladonna, hyoscyamus and stramonium. The active principles of these, according to Bastedo, are the alkaloids, atropine, scopolamine and hyoscyamine, with perhaps some others that are unknown. Roughly speaking these alkaloids are distributed in the drugs mentioned as follows:

Belladonna: Chiefly atropine with small amounts of scopolamine and hyoscyamine.

Hyoscyamus: Chiefly hyoscyamine with a moderate amount of scopolamine and a very small amount of atropine.

Stramonium: Chiefly hyoscyamine and small amounts of scopolamine and atropine.

The actions and uses of atropine and scopolamine or hyosine are fairly well known. As regards its use in cases of encephalitis, hyosine appears to diminish the tremor and the rigidity. Very

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little information is to be found as to the pharmacologic actions and uses of stramonium or its chief alkaloid hyoscyamine. The United State Dispensary states that stramonium or jimson weed consists of the flowering tops of *Datura Stramonium*, Linne (Fam. Solanaceae). Of this same family, in India *D. alba*, *D. ferox*, *D. fatuosa* are employed as poisons. *D. alba* was used by the Chinese as medicine and according to Frank Browne contains 0.485 per cent of hyosine free from other alkaloids. El Bethene is a *datura* of the Sahara Desert capable of causing delirium, coma, and death, and it is probable that all species of the genus are poisonous. The alkaloids of stramonium can be obtained from all parts of the plant but the fresh parts yield more than the dry. The drug of commerce is collected for the most part from wild plants. It has been eliminated from the United States Pharmacopeia several times, and there was no assayed standard strength of the tincture prior to the present product, which was admitted in Vol. X. The extract and fluid extract were not admitted in either the IX or X volumes. The U. S. P. strength of the tincture is represented as each 100 c.c. containing not less than 0.0225 gm. and not more than 0.0275 gm. of the alkaloids of stramonium. Jacobson and Epplen attribute the effects of stramonium to its sedative action on the central nervous system and to paralysis of the nerve endings. Mental retardation and muscular rigidity are relieved by excessive inhibition whereas salivation and tremor are inhibited by paralysis of the nerve endings. Pain is thought to be relieved indirectly through relief of the tremor and rigidity. The toxic symptoms were chiefly xerostomia, nausea, blurred vision, nervousness, insomnia, dizziness and anorexia. These can be alleviated by diminishing the dosage.

Dr. Stoerek is noted as being the first to mention the use of stramonium in neurological disorders. In 1797, Cooper used it in the treatment of epilepsy, mania and convulsive states. In 1925, Juster reported his results in the treatment of the Parkinson syndrome with stramonium. The following year, Laignal-Levastine and Valence published a report with conclusions similar to Juster's, namely, diminution of tremor, rigidity, bradykinesia, salivation and an improved mental attitude. They treated 24 patients for a period of one year. In 1926, Sophie Shapiro treated a series of 23 cases

with excellent results in 14 and slow improvement in 9. Harris in 1927 found small doses of no particular value. In 1928, Carmichael and Green reported favorably on the use of the drug. Moren published a paper in July, 1929 on the value of stramonium. An article in the Journal of the American Medical Association, December 28, 1929, by Jacobson and Epplen gives a survey of the history of the drug and its use in 23 cases. A paper of similar nature by Hoedemaker and Burns in the July 12, 1930, issue of the Journal of American Association, reported its use in a series of 36 cases for a period beginning July 1, 1929. A summary of the observations and results of those investigations is as follows:

1. The most beneficial results occurred in those patients most affected, and even in cases where all the symptoms were not relieved, usually life was made distinctly more livable by such amelioration of symptoms as did occur.

2. Stramonium is of practically no value in the relief of cases of idiopathic paralysis agitans and there are some cases of encephalitis which it does not affect.

3. Rigidity and the ability to perform fine associated movements were substantially benefited and, in some cases, rigidity practically eliminated.

4. Tremor was reported by some investigators as being always benefited, by others as being only slightly benefited and by still others as being best eliminated by a combination treatment with both stramonium and hyosine.

5. Myalgia was greatly relieved, and, in some cases abolished.

6. Fatigability and dysphagia were greatly benefited.

7. Ptyalism was eliminated.

8. Hyperidrosis was relieved.

9. Festination was very little benefited.

10. Mental retardation and catatonic postures were markedly relieved.

11. Oculogyric crises were lessened.

12. Toxic effects were rarely severe and could be easily combated either by palliative means or by lessening the dosage.

13. The maximum dosage necessary for best results is M-60 to 90 t. i. d. It is best to begin with M-20 and gradually increase by M-1 per dose per day until the maximum dosage is reached.

In this hospital tincture of stramonium has been used on six cases of encephalitis, and one case of paralysis agitans complicated by arthritis deformans. The latter received no relief from the use of the drug, and this was in agreement with results as recorded in the literature quoted. A brief report of the cases of encephalitis is as follows:

CASE No. 1. L. F. M.: A poorly nourished middle-aged woman, age 46, who was unable to walk alone and had to be carried into the out-patients' mental clinic. She had a mask-like expression and continuous myoclonic movements of the muscles of the chin, left side of face and tongue. The head was held forward in a stiff manner, and all the limbs were spastic. The reflexes were active and equal. The hands were flexed with the fingers in a pill-rolling position. There were coarse tremors of the arms and hands. The speech was slow, scanning and monotonous. She complained of choking spells associated with inability to swallow and of insomnia. A diagnosis of encephalitis lethargica with emotional instability was made and the patient placed on tincture of stramonium M-XX t. i. d., increasing by M-1 per day per dose to M-LXX t. i. d. In 12 days, she was able to stand but maintained a strained posture, felt more comfortable, tremors were less marked, she was less irritable was sleeping better and was able to feed herself. She continued to improve, the rigidity lessened and in a month and a half was walking unassisted, her speech had improved, and there was no drooling of saliva. Three months after the institution of the treatment, she was able to take long walks twice a day accompanied by a relative, and although there was still some rigidity, she felt much more comfortable. She has continued in about that state since then with no toxic symptoms other than some dryness of the mouth.

CASE No. 2. L. M.: Readmitted June 13, 1930, with a diagnosis of encephalitis lethargica and emotional instability. She was a young pregnant woman, age 26, single, and of an unstable personality prior to development of illness. Prior to admission she had been taking hyoscine over a long period. On admission, she was weak, walked slowly and rather stiffly. She had a mask-like expression with marked tremor of lips, tongue and jaws, and tremors and rigidity of all extremities. The tremors were worse under observation. The hands were in a pill-rolling position, the voice was indis-

tinct and monotonous, and saliva accumulated in her mouth. She was very emotional. She was placed on tincture of stramonium beginning with M-XX t. i. d. The tremor was lessened and the gait and speech improved. The rigidity decreased and she became more cheerful and sociable. There was no accumulation of saliva. Medication was discontinued July 3, 1930, and the tremors, etc., became worse. These were controlled for a time with morphine and hyosine. She was delivered of a normal female infant weighing 4½ pounds on July 10. On July 23, medication with tincture of stramonium was resumed. She improved to the extent of being able to walk about the grounds, attend amusements, etc., but at irregular intervals she decides she wants a new medicine and will resort to malingering in an effort to obtain this. She has made feeble suicidal attempts at times apparently in an effort to coerce the staff into complying with her demands. She is being given stramonium now, and apparently is in better condition both physically and mentally than on admission.

CASE No. 3. H. M.: Post-encephalitis: Parkinson syndrome. Readmitted September 18, 1926, age now 59. November 6, 1926, hyosine hydrobromide gr. 1-100 t. i. d. was started. There was no noticeable change in her condition and this was discontinued. On August 2, 1930, she was started on tincture of stramonium. At that time, she was in bed, had a rigid mask-like facies, a coarse tremor of hands and arms, and a weakness of all extremities. All reflexes were hyperactive and she had a marked ankle clonus, positive Babinski and positive Romberg. She held her body in a semiflexed position. Finger to nose and finger to finger tests were poorly done. She improved to the extent of feeling more comfortable with less tremor and less rigidity both subjectively and objectively. She was able to perform the finger nose test more accurately and with greater ease. She is still unable to feed herself or to walk unaided.

CASE No. 4. M. P.: Age 25. Admitted December 13, 1923. She exhibited the following diagnostic symptoms of her condition: indistinct speech, oculogyric crises, coarse tremors, mask-like expression, rigidity, athetoid position of hands and emotional instability. She was given tincture of stramonium during the fall of 1930 and thought she felt less rigid under this medication. However, there were no objective signs of improvement after a period

of approximately three months so the physician-in-charge stopped medication. Later, she denied feeling any improvement whatsoever.

CASE No. 5. S. S.: Age 27. Admitted December 3, 1929. Diagnosis, encephalitis lethargica: emotional instability with a paranoid trend. The most prominent features of this case were her mask-line facies, monotonous speech, tremors, rigidity and marked emotional instability. After about two months' medication, she expressed subjective feelings of improvement in her rigidity, tremors, and general feeling of comfort. The objective features were not particularly marked and there was no improvement in her emotional reactions.

CASE No. 6. M. M.: Age 38. Diagnosis, encephalitis: deterioration. This patient was admitted August 11, 1923 and has shown a steady deterioration in her physical and mental condition since then. She is dull, deteriorated, confused and practically mute. August 6, 1930, she showed a mask-like facies, slight tremor, spastic shuffling gait, rigidity, lack of coordination of musculature, semi-flexed position of body and hyperactive reflexes. She was given tincture of stramonium for about 5 months with no objective improvement of any kind, and she is incapable of reporting her subjective sensations.

Of the six cases of encephalitis two showed marked improvement both in physical and mental symptoms, two showed definite improvement but not as marked as the other two and two derived no benefit whatsoever from the treatment.

CONCLUSIONS

From a study of the literature and observation of the cases treated in this hospital, the following conclusions seem justifiable:

1. That stramonium is beneficial in the symptomatic treatment of encephalitis with Parkinson syndrome. It appears to relieve more of the symptoms than hyoscine which, apparently, affects only the rigidity and tremor and in some cases only the tremor, whereas stramonium is of benefit in the mental symptoms as well as the physical. Some investigators have found best results from a combination of the two drugs.

2. That in view of the relief afforded most patients it should be tried with all of them.

3. That a thorough investigation of the drug itself should be made which would include a study of its effect on the various organs of the body.

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PROBLEMS ASSOCIATED WITH MALADJUSTED CHILDREN

BY SARA HIRSDANSKY, M. D.,

Today we have struck a keynote in modern medicine which, it is to be hoped, will have a far-reaching effect not only on the history of modern medical practice but also in the fields of education and philanthropy.

In recent years we have been advancing to the point of view that the best way to treat disease is to prevent it. It has become the custom, even in the humblest homes, to undergo periodic physical examinations at health clinics. This has been an invaluable step in the advance of modern social medicine.

We are now entering upon another phase equally vital. Psychiatry, especially in its relation to the study of children who are maladjusted, shows the value of prevention of mental disease by early recognition and treatment of incipient mental disorders. The great importance of early recognition and treatment, physical, mental and emotional, is stressed in a psychiatric clinic for children.

To accomplish this, a closer understanding of the child, through correlation and cooperation of parent, teacher, social service worker, psychologist and psychiatrist must exist. Each provides an invaluable link in the chain of study of the problem child.

The aim of the psychiatric study of the child is to help him to so adjust himself to his environment that later in life he will become a self-respecting and self-supporting member of society.

The causes of maladjustment in children are many: poverty, ignorance, lack of skilled preparation for earning a livelihood on the part of the parents, immigration involving the lack of knowledge of the English language and American customs, crowding, bad companionship, neurotic parents or guardians, over-protection, neglect, death of one or both of the parents, parental discord, disease (nervous or physical), chronic toxemia, mental retardation unrecognized and untreated, unsupervised recreation, poor heredity, and mental conflict.

Some of these factors can be overcome, others can be modified, while still others may be eliminated entirely. One child may, and quite often does, present several of the above difficulties. The fac-

tor of poverty frequently implies crowding, unsuitable as well as unclean and unesthetic clothes, lack of personal hygiene, lack of privacy, irritation, and fatigue. These are baffling conditions to have to meet in the treatment of maladjusted children. The factor of neurotic parents is one suggesting the need of psychiatric clinics where parents could be helped to better understand their own personality difficulties. The parent who is in mental conflict herself has serious difficulty in training her child. Correctable physical defects are often most amenable to treatment, and the results accomplished here are frequently most encouraging.

There are two methods of approach in considering the personality study of the child. One is the direct method of the study of the child himself, and the other, the indirect method, which considers the environmental, familial, social and educational influences surrounding the child. A complete study entails both methods.

In the conduct of an efficient psychiatric clinic, four types of people are required. These are: the psychiatrist, the psychologist, the psychiatric social worker, and the secretary. Each, as has been said before, provides an invaluable link in the chain of study.

1. The psychiatric social worker has, in the main, two types of duties; one includes an investigation of the home and neighborhood influences, as well as school environment; the other involves the follow-up of the child after the examination by the psychiatrist and psychologist. This is an important part of the work of a psychiatric clinic.

2. The psychologist determines, after careful study, the special abilities and disabilities of the child, and estimates his general intelligence and mental age.

3. The secretary communicates with parent, school, teacher, or other referring agency, and calls the child for examination. The teacher is asked to provide a written statement of the child's present scholastic standing and conduct and any other factors which in her opinion would be of help in a better understanding of the child. A copy of the school record card, containing the rate of progress during the entire past school history, is asked for by the secretary. The secretary also writes for data from hospitals or physicians, if the child had recently received hospital or medical treatment.

4. The psychiatrist, in the light of her knowledge obtained from the teacher, the child's record card, the social service worker, and a painstaking personal interview with parent or guardian, gives the child a thorough physical examination. In addition a general neurological examination is made, and such factors as speech, tics, gait, tremors, evidence of paralysis, muscular twitchings, choreiform or athetoid movements are noted. Those children who seem to require further neurological study or laboratory tests of blood or urine are referred to suitable clinics near their homes. Following this examination, a personality study of the child is made. The outline of this study in a very general way has been followed in accordance with that suggested some time ago by the Department of Mental Hygiene. It considers the following factors in the life of the child:

- (1) Play life and other interests.
- (2) Dreams, fears, emotions, conflicts.
- (3) Attitudes toward self, school, teacher, family and companions, (scholastic and other ambitions).
- (4) Personal appearance, facial expressions, mannerisms, moods, etc.
- (5) Memory, general fund of information, judgment, orientation, etc.

Throughout the examination the child is alone with the examiner whenever possible. The parent and child are both assured of the examiner's desire to do all in her power to be a friend and of service to both parent and child. Every effort is made to maintain a sympathetic understanding between parent, child, and examiner.

In conclusion, the physical findings are summarized, and correctable physical defects noted. The parent is then given a letter, if she requires it, to the best clinic near the child's home for the treatment of physical defects found. Enclosed in this letter is a stamped, self-addressed envelope. The physician at the clinic is asked to mail back a report of the findings and plan of treatment. The name of the clinic is recorded at the bottom of the physical examination sheet of the child, for future reference.

A summary of the impressions and opinions regarding the child is made. Recommendations, when feasible, are sent to teachers, parent, or referring agency.

In some cases a detailed psychiatric examination is not necessary. Enough of an examination is given to establish or eliminate the presence of a personality disorder.

Various types of children are met at the psychiatric clinic. Some of these are quite distinctive. For example, the "sociopathic" type: He is unstable emotionally, lies, steals, is irresponsible, not dependable, lacks continuity of purpose, shows poor judgment, and often is a sex delinquent. He is egocentric in the extreme, and he enjoys attention. This is the type that often becomes the delinquent, truant, and possibly, later, the criminal.

Another type requiring consideration in our school program is the neurotic child. His characteristics are many. He is often a pampered, over-protected child of a neurotic parent. He bites his nails, or sucks his thumbs, gives a history of tantrums when younger, is restless, irritable, hyperactive, and lacks emotional and volitional control. There is frequently a history of enuresis in many of these children. They are believed to misbehave because of the presence of conflict of infantile impulses which seek gratification, and in the effort to combat this, they often develop these neurotic symptoms. There is believed to be hidden, deeply subconscious repressions of these infantile impulses. One of the proposed methods of treatment which warrants consideration is the ventilation of these repressions so that they no longer remain in the subconscious mind. A very modified form of psycho-analysis suitable to the age and stage of development of the child has been proposed.

Another type worthy of study is the seclusive personality. He is the shut-in type, who lives quite within himself, he dreams much, has fantasies, and does not enter into the social life of his class. He is indifferent to those about him. He is unobtrusive. His conduct is often irreproachable. He is frequently the student type. He represents a type diametrically opposite to the "sociopathic" delinquent type. The latter is more the extravert, the former is the introvert. The seclusive child is often not recognized as such, and may go into an extreme state, later developing into the dementia praecox type, if conditions are conducive to such development.

Then, one sometimes meets the "prechoreic" type. He is hyperactive, and has muscular twitchings. His powers of attention and concentration are not long sustained. He tires easily, gets into mis-

chief, is quite temperamental. Such children require careful study and guidance in order to prevent the more serious difficulties associated with chorea.

Still another type is one suffering from endocrine dysfunction. He is usually either abnormally large for his age, or very obese, very short, or very thin and tall. He is out of proportion physically, and often mentally retarded. He may be suffering from pituitary, thyroid, adrenal, thymic, or gonadal dysfunction. Sometimes several of these glands may be involved at the same time. These children, more so than many others, should have the benefit of careful follow-up treatment by the social service department of a psychiatric clinic. Mothers frequently become discouraged and give up treatment too soon, with the result that the child fails to improve, when he might have improved if persistent treatment were followed.

There is a type also which one would classify as the constitutionally inferior type. He is below par physically, mentally and emotionally. He is underweight, undersized, retarded, and with poor emotional tone.

Then there are the group of mongolian imbeciles. These have the characteristic mongolian eyes, large tongue, small, pliable hands and feet, poor dentition, poor muscle tone and coordination, and lowered nervous stability. Some of these are hyperactive, while others are quiet and docile. Fortunately for society at large, these do not live much beyond the third decade. They have poor resistance to disease, and are usually sterile. Their mentality is such that they can never care for themselves. These are burdens on someone all their lives.

In discussing the problems as they seem to arise in the course of work with maladjusted children, there are facts in relation to the school, which, if these were met with, would serve as an invaluable aid in readjusting children who have difficulties to face.

There is great need of a rearrangement of our entire school plan of education whereby schools would be conducted on the departmental basis.

All children should be taught by specialists with special training in their particular field. Children should be advanced only as rapidly as they can go. There should be no speeding. A child who

can compensate by showing efficiency in motor or manual training should enjoy the assurance of progress and superiority in that particular field. This whole departmental plan would help to develop specially equipped teachers as well as more carefully trained children. It would not single out children needing to be grouped together because of some weakness of theirs. This system of specialization among teachers would act as a stimulus to teachers as well. In carrying out the departmental program of education, certain schools could be organized to stress trades and industrial training. Children who are retarded or who are unequal to the academic demands of the regular grades could be placed in such schools. In connection with this, it is important to stress the great need for trade schools for boys mentally retarded, between the ages of 14 and 16. Many of these boys become behavior problems because there are not adequate means for vocational education for them at this time.

A valuable part of the work of these industrial schools would be the establishment of special classes for the "sociopathic" and neurotic types of children. These groups would be smaller in number, and would be provided with teachers specially trained in mental hygiene. The curriculum and facilities, as well as the hours, would be specially arranged to meet the needs of these types of children. Such children require special care in the schools, and intensive supervision. This may seem like an expensive venture in public education, but in the long run, it will prove an economy.

There is another factor in our educational program which seems worthy of further consideration. In one of our large cities an effort has been made to devote intensive study, especially psychological and psychiatric, to pre-school children. If this were done more generally, much waste of time could be averted, many personality disorders could be prevented, and both parents and teachers would be more intelligent in directing the child's future education. Too often the procedure begun in later years entails much waste, and unnecessary discouragement. Children are referred after they have shown inability to progress in the schools for several years. There can be but one effect upon the child who has been in a classroom for several years and is unable to follow the work understandingly. If prevention is really worth while, we

should stress the importance of psychologic and psychiatric examinations of pre-school children, just as we are beginning to require pre-school physical examinations.

Another problem associated with the study and treatment of the maladjusted child is the lack of a clear conception of what such clinical work implies. Unless educators, parents, social workers and philanthropists have an intelligent understanding of the meaning of the aims, methods, as well as the needs of the psychiatric clinic for children, much of the work is futile and seriously handicapped.

There arises a troublesome factor in the present grouping of retarded children. These children are seriously enough handicapped. Children who have serious personality disorders superimposed upon retardation should not be included in the present group of retarded children. Children with such disorders should be treated in a separate group.

Another problem of importance should be solved in attempting to meet the educational needs of maladjusted children. This involves the great need for better training in the field of mental hygiene in our training schools for teachers. Unless teachers are better trained from the standpoint of understanding human beings, the child, who must spend half his life in the classroom, cannot be helped effectively. I quote from one eloquent writer who says: "The new education must train teachers who live in the harmony of freedom free from wasteful nervous effort, free from self-consciousness, free most of all from emotional conflict or the emotional starvation that feeds upon the children committed to their care." There is evidence of the need of a mental hygiene point of view on the part of the teacher. Improvement in reading and arithmetic are often prevented by wrong attitudes on the part of the teacher, the parent, or both.

In connection with the problem of a special program for mentally retarded children, there arises a difficulty which should be met for children between the ages of 14 and 16 in the ungraded classes who often become behavior problems due to the discouragement associated with their inability to progress intellectually. These children become discouraged and impatient, especially where there is economic stress at home, and it would be greatly to their

advantage if an exception were made in some cases to the compulsory education law allowing them to go to work while still under the supervision of the Board of Education. The experiment as followed in New Haven might well be worth trying, if we wish to serve these children wisely. This experiment will not only serve to guide these children in the choice of a vocation, but will also help to modify our present educational methods in the work with retarded children of 14 to 16, so as to be better suited to their peculiar needs.

In connection with the organization of industrial schools for special children, a valuable adjunct would be the establishment of health farms in suburban centers, built on the cottage plan, for children with personality disorders. These health farms should care for the neurotic and sociopathic types, as well as children in need of physical up-building whose home environment is unfavorable. These farms should be places conducive to the development of healthful habits of living and thinking. Here practical courses in farming, domestic art and science, carpentry, machine operating, etc., could be taught. Such treatment centers should ultimately replace probationary and reformatory schools. Mental hygiene should be an important element in treatment at these farms. Care should be taken never to allow such farms, if established, to become places for punishment rather than treatment.

In conclusion, it is important to let it be known that school clinics conducted for the psychiatric study of children be not established as subservient to another school department. Such a psychiatric clinic should be under the city superintendent of schools, working in cooperation with all other school departments, but free to carry out its therapy independently and without restriction. Only insofar as there is freedom from restraint, can such a school clinic develop and progress. If such a clinic is allowed to work in the manner as described, its value will not only consist in its contribution to the child, but it can then become a pioneer project in educational, psychologic and psychiatric research, and enhance the work of parents associations, schools, and training schools for teachers.

It will be many years before there will be anything like an adequate number of psychiatric clinics for children to meet the growing needs of our present-day civilization. Therefore it behooves

us to tackle an important mode of approach in the treatment of maladjusted children, that is, the work of correcting environmental and educational factors, such as the establishment of many municipally-owned supervised recreational centers, improved teachers training courses including courses in the mental hygiene of childhood, industrial schools, special classes for sociopathic and neurotic children, health farms, a departmental system of education, psychologic and psychiatric examinations for pre-school children, and the organization of psychiatric staffs, especially in connection with industrial schools.

Inasmuch as such a staff represents pioneer work in our educational system, such psychiatric groups should not be hampered by routine or custom. It should be free to do its research without the red tape so deadening to the life of any important human project.

In closing, if the city's educational system is sufficiently far-seeing, such an educational venture will yield invaluable constructive results both in the field of prevention as well as cure of many forms of mental and physical disease of children.

SOME ENVIRONMENTAL FACTORS CONTRIBUTING TO PROBLEMS OF ADJUSTMENT*

BY GRACE CORWIN RADEMACHER,
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In the northern part of Scotland on a promontory overlooking the sea, is a village of some 500 souls. These are simple fisher-folk who have always lived close to the elements and have followed the sea for generations. With the children it has become a tradition and all their early day-dreams anticipate the day when they will captain the fleet home from its trip to the north. From childhood they are impressed with the need of continuing the traditions of their elders and they are taught to fear a righteous God. In this simple village they live close together, welded by common dangers and an anxiety borne of months of waiting for the safe return of their men folk.

Transport a little family of three from this closely knit and pious group, steeped in the sentiment of their lineage, to a large industrial center of our own country. Here, indeed, is a frank study of environment in its relation to the overwhelming problem of adjustment. The father, robust and hale, weather-beaten from the dash of the sea and the gales he has "watched-out" from the rail, applies for work in a mill and becomes a moulder of our industrial gold. Steel begins to shape him and when he refuses to pay respect to the first twinges of sickness occasioned by his new mode of living it soon has ravaged him completely. Within two years he is dead. The mother and the little boy of 11 remain to carry on. This lad who has been in our public schools for a year is singled out because of his accent, because of his hesitancy and uncertainty and because of his utter lack of knowledge of the codes and customs of our juveniles. Upon the death of his father his mother assumes the role of breadwinner. Her early religious teachings take on added significance in the grief and loneliness she bears. Her life is centered in her son. He becomes a symbol of her past happiness and is instilled with the idea that above all he is a Scotsman and that on him rests the responsibility of upholding the honor of his

* Presented at Conference of Clinic Staffs at New York State Psychopathic Institute and Hospital, December 5, 1930.

people. There can be no waste time for play for dillydallying in groups to no purpose. One must not waste God's time. He must work and strive to become worthy of his heritage. He must also be like his father and live up to all those things which the idealized father will expect of him. Picture this boy in the school and in the day nursery after hours where he awaits his mother's coming from work. How easy now to understand his fear, his weak compensations as he tries to overcome his insecurity in his relationship with his companions. His sudden fits of anger immediately followed by an overpowering feeling of guilt which likewise overwhelms him whether he attempts to forcibly hold his own or to participate in even ordinary recreation. Here, indeed, the importance of environment is vividly demonstrated.

Granted that it is unusual to show as clearly as in this instance environmental mechanisms which relate so closely to the adjustment of the individual—still the problems involved in the adjustment of a people transported to a strange and alien country are familiar to all. The problems that beset the child of one who lives in a neighborhood made up completely of another nationality are likewise well known. Such an individual's difficulty is often made more acute by the parent's futile attempt to instill in him the idea of the superiority of his own descent, thus creating a scaffolding of insecurity to which he attempts to cling. Witness, too, the problem of the rural child when he moves to the city. Even the everyday person after one or more unsatisfying ego experience will tend to withdraw from an environmental setting which he has been unable by either destructive or constructive measures to manipulate satisfactorily.

Behavior is not a simple result of two easily-defined factors. Rather is it an algebraic equation including in its solution a series of unknown, uncertain and illy-defined quantities. Heredity is one factor which must always be considered. With the importance of this you are familiar from your case histories of the mentally sick and from the recurrence of similar behavior patterns and personality reactions running through the families of your patients. Physical fitness is a second factor. You recognize the hyper-irritability of the fatigued. You can readily identify yourself with the crippled child bedridden as a result of his deformity and willingly excuse

much in his behavior and ideation because you feel that his must be an unhappy life. You accept the screaming of the child whose face is puffed out as a result of an ulcerated tooth. You understand a certain self-consciousness on the part of the individual with some obvious physical blemish.

You consider also the intellectual level at which the individual is able to react. You do not expect a ten-year-old mentality to assume the responsibilities of a great executive, nor the individual with the intelligence of a great executive to be long content at manual labor unless there is some emotional illness. For each of these conditions, the physical, the intellectual and the emotional, there are certain social aspects which are of supreme importance in modifying the life of the individual. For every emotional factor which the psychiatrist may unearth the social worker may be able to present a dozen discrepancies in the environment.

A second child in the family, cried constantly as an infant. The mother, ill, worn with fatigue, is beset on every hand. Her husband is exasperated at her inefficiency. Timidly she projects herself between the shouting father and the screaming baby as she cuddles the babe closer to her than ever to absorb every little response of appreciation which this tiny one may give. Her husband's disgust and his own lack of emotional outlets, sends him to his older child on whom he lavishes his attention. This continues until eventually he finds open delight in seeing the chagrin and disappointment of the younger as a result of his partial methods. The psychiatrist finds that this child's meanness is a result of her jealousy of her brother. It remains for the social worker to point out how this mechanism found fertile soil in the home situation.

Physical illness likewise has its related social problems. A patient comes to the clinic because of school failure. His first spontaneous remarks are to the point—"I'm not strong, I can't fight." The psychiatrist points out the marked feeling of inferiority to which the boy is reacting, whereas the social history reveals how an early feeding problem harried the mother and how following this came gastric upsets accompanied by convulsive seizures at which the mother's anxiety knew no bounds. Even excellent recovery could not overcome her anxiety and fear. Convinced that her child was not well and that he therefore needed her protection, she

accorded him ever watchful care. A normal association with other children was not to be thought of and their games and play came to be described as rough and uncouth. When he was sent to school he was subjected to the taunts and ridicule of his classmates. Because of this the mother has become convinced that the school and neighbors are in league against her. She no longer goes out to continue friendships and pleasures but stays to herself in a state of pent-up emotion which she herself does not understand.

The treatment of the unadjusted person must consider environmental influences. One may treat behavior from the physical, intellectual or the emotional side but there is little point in expecting success if the patient is to be continued in the same social setting which harbored and fostered his unadjusted patterns, unless this has likewise been treated at least to the extent that it has become a pleasanter and healthier soil. If environment is to remain a static thing there is little chance of bringing about an improved type of response. In treatment we strive to manipulate the environment. The greater responsibility for this should rest on the psychiatric social worker.

A mother calls at the clinic about the spells of her adolescent son. The social worker investigates and obtains a story in regard to these convulsive seizures. She is met, however, with considerable reticence about any other topics seemingly not related to these peculiar spells. On the surface it sounds epileptic but there seems to be so much unusual tension. The client reaches a point where she can no longer contain her emotion. She whispers, "I'll tell you something, I'm only his stepmother!" Then follows a long tale of wanting him to love her, of giving him everything he wanted, of pampering, of spoiling and excusing. She tells of her marriage, her inability to have children of her own, of a phlegmatic husband, of her fear that the boy will want to go away. The psychiatrist suggests a psychogenetic epilepsy. While he is building up abilities in the boy and opening new avenues of expression, the social worker is caring for the home. She delves into the mother's anxious housekeeping. She shows how the large prettily dressed doll which graces the divan is but a symbol. She points out its effect on the patient. She points out the effect on the stepmother herself. She arouses an inert father to an appreciation of a regu-

lar allowance for the boy rather than a continuance of the present dolo system of the most fabulous sort. She shows him his need of assuming other roles with his wife than that of a mere donor of money. She brings about a closer bond between them with the resultant lessening of the over-solicitous cord between mother and child. She finds outside activities for the mother and converts the unproductive love of the doll to wholesome social interests. In short, a new home is born within the old and with its growth in stability it provides an opportunity for the boy to develop in his own right without the need of resorting to infantile behavior. It provides the opportunity for him to recognize his fantasies and day-dreams as incentives to achievements rather than as present methods of escape. The modifications in the home situation by the social worker have thus materially assisted in the alleviation of the boy's mental conflict by the psychiatrist.

The psychological value to the patient of certain immediate changes in his surroundings as an initial therapeutic measure is often under-estimated. Certain modifications may frequently be undertaken at an early stage in the consideration of the case. It is often at first merely a change which subsequently takes on all of the aspects of improvement. The benefit is doubled as for every satisfactory change in the environment there will also be a lessening of the emotional conflict. We most readily, perhaps, think of environmental influences in relation to physical well being and public health. It is not always appreciated that the behavior resulting from the emotional maladjustments of other members of the household are, in fact, part and parcel of the individual's own environment. Even the question of discrepancy in the intellectual level of a person is rendered less poignant and painful to him when he is in an environment which understands such a discrepancy. The student of environment has, perhaps the most promising material from the standpoint of success in treatment, as it is well known that whereas we are unable to change present heredity and are limited in regard to physical equipment and mental endowment, the possibilities, the potentialities in the successful manipulation of environment are unlimited.

Environmental influences are a constant force shaping the individual. It is perhaps the environment that has made man. Envi-

Environment provides the difficulties of everyday life for it is the combination of our own instinctive drives and urges and the complexities of the modern world which place the individual in daily conflict. Civilization has not changed this though it has made modifications in the direction of the stresses. Today struggle is as great as the prehistoric for, today our mode of life is so complex that there is even greater frustration for the individual in the ordinary avenues and channels of self-expression. If we would appreciate adjustment we must understand environment.

COOPERATIVE RELATIONSHIPS BETWEEN CLINICS AND SOCIAL AGENCIES

BY ELISABETH G. BROCKETT,

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There has come into use a new term, that of cooperative case work. A definition of this has been offered by a group of people working for the past few years with agency cases in psychiatric clinics. "Cooperative case work is case work in which the professional activities of the clinic social worker are substituted for those of an outside agency on whose clients the clinic is carrying on work."*

The philosophy underlying the development of this cooperative work is a very simple one—that consideration of a problem from many angles by several persons may create new thinking which can be converted into constructive treatment. The referring agency worker keeps her responsibility for the social treatment of the client; the members of the clinic staff, the psychiatrist, the psychologist and the psychiatric social worker, are her consultants. There is no inherent difference between the agency social worker and the clinic cooperative social worker. They both, supposedly, have had the fundamentals of generic social case work in their training period. The only difference is in degree and emphasis due to experience. The clinic psychiatric social worker has developed certain points of view which can be of assistance to workers in another field and the agency worker likewise has developed certain techniques and acquired different knowledge of community resources which will aid the clinic in a more thorough plan for treatment.

The use of psychiatric clinics by social agencies is, of course, not a new development. In fact, historically, the demand of social agencies for help on their difficult problems was one of the moving forces which resulted in the extension of the staff services of State hospitals into community settings.

Let us take one specific field of case work and briefly describe the evolutionary process through which social agencies and psychi-

* Conference of Clinic Cooperative Workers, March 27-30, 1929, under auspices of National Committee for Mental Hygiene.

atric clinics have come to a closer mutual understanding. Shall we take the broad field of child welfare and narrow it down to the special field of foster placements? I am thinking of the development of a particular agency here in New York City as told by one of the earlier workers in that organization.* In 1918 children were largely understood by agency workers in behavioristic terms. By necessity, lacking something else, workers were Watsonian behaviorists. They saw only what the child did. If this were acceptable to foster parents, they heaved a sigh of relief. Good children were never in need of understanding. If the child stood out as too difficult, he was likely to be taken to the neurologist. This led to clinic attendance for tonic baths, massages and medicines. If the child were actively anti-social, the worker joined with foster parents in devising punishments. The child no punishment could cure ended in some institution. This in brief was the practice in the child behavior field in those days. But even then a few workers had discovered that psychiatry was pointing to the belief that control of processes could only be attained through discovery of causal connections. Heredity was the first clue. The social worker became unpleasantly conscious of the possibilities of disaster in the feeble-minded or psychotic family free, but to the social worker whose interest was therapy not theory the uselessness of "heredity" to do anything but to explain and excuse was evident as was also the impossibility of utilizing it in a constructive treatment program. Then came the use of the mental test by the child-placing agency. This was first thought of as a weapon against the child, something by which he would be condemned. Its apparent definiteness was its vice as well as its virtue. The failure of the test alone to solve the behavior problem rapidly led to a discrimination on the part of the agency social worker between emotional and intellectual factors. Workers discerned at an earlier stage the cases which needed the skilled services of the psychiatrists. The child-caring agency then took two general directions—first, toward the search for causal connections which were no longer in heredity but in genetic developmental history and in the description of immediate family inter-relationship; and second, toward describing, measuring, gauging and seeing the child vividly

* Jessie Taft, Ph. D. New York State Charities Aid Association.

in the present. The emphasis in the work shifted from having a problem child examined at the psychiatric clinic after his placement in a foster home to having every child examined before placement. With this emphasis came pressure on the agency worker from the clinic for more elaborate histories and for more vivid description of the child in his own setting. This was the period when fragments of Freudian psychology were filtering through to social case work. Concepts of sex guilt, of deprivation, of inferiority, became a part of one's vocabulary. A popular concept became "the inferiority complex" and the "attention-getting" behavior. Those were easy for the social worker to explain to foster parents, teachers and others but it was all a hodge-podge of theory without consistency. Today the agency worker, if at all well trained approaches the child with a profound realization that any vital change will come from within the growing personality and that the study of cause and effect relationships in personality growth is an exceedingly intricate matter.

So, in 1930, we have the social agency worker in the child-placing agency bringing the child, before adoption or placement, to the expert in the study of personality. She wants to know from the clinic—What is the personality make-up of this child? What type of home is needed? What kind of family unit is needed to effect the desired responses in the child? As is evident from this, she is thinking more in terms of the emotional needs of her client than in terms of material things and the physical norms of family life. In the cases of social problems brought to psychiatric clinics by agencies, we can expect a considerable knowledge on the part of the referring worker of the problems presented. She is familiar with the social dynamics of the situation. She will have presented her history material, summarized with both her client's problem and the problem facing her own agency clearly set forth. Sometimes there has been a conference between the agency worker and the clinic cooperative worker for a discussion of this material before the case is referred. In this interview there are certain points which the clinic cooperative worker is watching. Does the referring worker come on the advice of someone else? Is she resistive to the clinic herself and only coming under direction? Has she perhaps a preconceived

notion of what is wrong and what to do about it? Is she using the clinic only because she thinks the case is hopeless and wants to pass it on? Is she referring it as an emergency, that is, has she waited until some crisis in the client's situation calls for action beyond her capacity? Is she expecting the clinic workers to do the thinking about the case problem for her, or is she ready to enter into a discussion of factors involved? Does she think the clinic has some commodity to sell and is she therefore trying to escape from understanding her own case material directly? This latter point, that is, the concept that the clinic has some commodity to sell, may also apply to the clinic social worker. If she holds this concept, she will feel superior to the community worker and thereby accomplish little. In the initial interview between the two workers, then, the referring worker wants to learn whether the clinic does feel superior to the community agencies or whether it recognizes itself as a specialized form of service dovetailing with others in attempting to meet the community needs. Does the clinic know about her agency, its policies, its aims and its functions, its standards in matters of training requirements, the general run of its case load, the conception it holds of its own place in the community?

Cooperative case work then, we think, proceeds best when the understanding between clinic and agency reaches the point where leadership in the undertaking of any given case study is shared by both. This may assume a primary significance in the determination of the type of community relationships the clinic is to establish.

The kinds of cases referred by agencies fall in general into two main groups, those referred for diagnosis only and those referred for both diagnosis and treatment. Some cases referred may not be accepted on the basis that the clinic study can add little of value either because the situation is one with which a particular clinic is not equipped to deal or because the referring worker has accomplished as much as could be expected. Discussion of reasons for rejecting cases should be given sufficient time so that a referring worker does not feel rebuffed or frustrated. She may have been working for weeks and even months to bring the client to the point of attending the clinic. The cases accepted for short diagnostic studies only are becoming fewer in number as agencies realize that diagnostic labels are not

of practical help. For an illustration, let us take the patient who comes with the following symptoms: pains all over his body, dizziness, spells of forgetfulness, bad dreams, inability to recognize people. After the clinical examinations were completed, the psychiatrist recommended that the agency cease giving any financial relief and by this method force hospital care for which the patient was asking and which the psychiatrist was recommending. He thought that this drastic step of withdrawing relief would be the shortest way to attain the desired end. The agency's point of view was in contrast to this. It felt that it could not withdraw abruptly its service from this family with whom it had been working for over 15 months. As the agency brought in more data concerning the family's attitude toward hospitalization, the psychiatrist's point of view changed and it was thought to be a more constructive plan to work more gradually toward commitment. This worked out successfully and when the patient finally entered the hospital, the relatives had a much better attitude toward the whole problem.

The following case was referred by a charity organization for help in determining a man's working ability. This case proved to need a considerable period of joint treatment. By joint treatment I mean direct psychotherapeutic treatment of the patient by the psychiatrist and simultaneous social treatment of the family by the social worker. The patient presented the following symptoms: He finds on exertion that his body becomes rigid and his head whirls and he feels utterly unable to work. He was an Englishman, a tailor by trade, who had been unemployed for the past nine months. For some time the agency worker had been encouraging him to attempt light work in spite of his illness and in spite of the fact that he would not be completely meeting his family's financial needs. He was assured that the agency would supplement his earnings. Even with this economic strain relieved by the agency's actions, he was unable to bring himself to work. After the clinical examinations were completed, the psychiatrist's opinion that we were dealing with an anxiety neurosis in an inadequate personality, that the physical examination showed no abnormalities, that the man was intellectually within the range of normal, was given to the worker. In a

joint discussion of the case, it was thought that the symptoms developed in reaction to several factors—the economic strain from working on an insufficient wage, unsatisfactory marital relationship (frigidity in wife), inadequate parenthood with concern over an eldest child who was feeble-minded, his own feelings of physical inferiority due to his small stature and the loss of sight of his right eye. Definite steps in treatment were planned including weekly appointments with the doctor for psychotherapy, a diet regime, a program for the day which was to include rest and recreation away from home cares, securing a salesman job on a commission basis rather than attempting to have him compete in a trade, attempt by the social worker to give the wife insight into some of his difficulties, and arrangements by the social worker for health examinations and care of the children. This treatment plan was carried out and the patient reported to the clinic for two months. At the end of that time there was such an improvement in the situation that the patient was too busy working to keep his clinic appointments.

The intensity of the case study is a matter which the psychiatric social worker has to consider with each agency. A series of rather brief, less intensive cases is often of more help to a given agency where the need is to promote better cooperative relationships. Another agency might profit more by one or two cases exhaustively followed. The process of making joint treatment plans between clinic and agency has interesting implications. Presumably the first decision about treatment is made in a conference with some members of the clinic staff. At this conference the clinic's attitude and manner of approach have a far-reaching significance in the matter of inter-relationships. The avoidance of anything that savors of handing out an edict should be constantly in the minds of the clinic staff. The treatment plan must be evolved in feasible terms definitely related to the patient's needs with recognition of the agency's previous work in the family and subject to any modification that may make it more practicable. Any treatment plan accepted by the agency worker just because the clinic recommended it rather than because it seems workable, is probably carried out skeptically and with little understanding. It is nearly always doomed to failure.

This failure involves the prestige of the clinic which has then assumed the responsibility of formulating a recommendation thoroughly approved and understood only by itself. Cooperative treatment based on an individualized policy for each agency seems to depend for success more on personal contacts between staff members than on routine written reports. The system some clinics use of sending out form blanks to be filled and returned are succeeding in keeping their file clerks occupied but not in producing results in the community.

One acquires wholesome perspective by working closely with someone who sees the family of the problem child or adult not as a background for the clinic's patient but as a group whose welfare as a family is a matter for serious concern. Viewed in this way, cooperative agency work may become a valuable means of enlarging the psychiatric clinic's field of experience.

CLINIC PROBLEMS*

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Formerly, preventive medicine was concerned solely with the physical welfare of the individual, death rates, average life expectancy, etc. Within the last few years, however, a new view has been taken, a view which, while not discounting the value of physical health, considers the ability to adjust to a difficult situation and the capacity for self-support, of equal importance. In other words, *quality of life* is beginning to assume as much importance as longevity in both the professional and the public mind.

People are becoming interested in and better informed about the subject of mental hygiene. This is true, not only in isolated instances where an acute need for institutional care or a psychiatric examination has brought the matter forcibly to the attention of a few individuals in a personal way, but generally, in the application of mental hygiene to education, to the intelligent home-rearing of children and to the countless difficulties and problems which rise in the everyday life of the race. The unprecedented vogue of popular lay writers on the subject testifies to a widespread interest in the mind and its functioning and a serious attempt on the part of the thinking public to understand its own behavior and the underlying reasons for its mental difficulties and conflicts.

The State hospital is taking legitimate leadership in this movement. By means of its out-patient staff, including social workers and clinic physicians, it has accomplished much in bringing about a closer relationship between itself and the community, which has led in turn to a better appreciation by the public of the true nature and purpose of hospitals for the insane. Aside from the direct help which State hospital clinics and social service brings to communities in the form of psychiatric, medical and social aid, they have the direct advantage of acquainting the public with the general nature of mental disease so that early symptoms are often recognized at home or in the school and treatment promptly sought either at child guidance or adult psychiatric clinics.

While much that may be said here can be applied equally to the

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child guidance clinic and the psychiatric clinic, I shall confine myself principally to a consideration of the adult psychiatric clinic. Such a clinic should be operated in conjunction with a general hospital or a well-organized health center. Where a variety of clinics are held, the psychiatric clinic is found to be an increasingly important one. The coordination of different clinics is very desirable. Frequently patients are seen at the psychiatric clinic who need X-ray and various laboratory examinations before a diagnosis can be made. Sometimes cases are seen where treatment other than that dispensed at the clinic is necessary. Where possible, they are advised to consult the family physician, but if indigent they are referred to other clinics.

While each clinic presents a different problem, there are certain recommendations applicable to all. First, the work of the clinic must be kept before the community. Clubs, churches and other social organizations offer good opportunities for talks. The work of the clinic should be explained to influential men of the community. As you know, the clinic physician is apt to meet with antagonism within the profession. The general practitioner strongly dislikes anything savoring of State medicine and he has wrongly labeled as "State medicine" any undertaking to promote public health. The strictly ethical and efficient operation of the State hospital clinics by experienced psychiatrists has gone a long way towards persuading the medical profession to take a more reasonable attitude toward public health problems.

The success of a psychiatric clinic depends to a large extent upon the cooperation of local social workers and they must not be antagonized at any cost. Experienced and cooperative social workers are an invaluable asset to any clinic. Often patients are referred by social agencies and physicians without any information accompanying them.

If a social investigation of the family life and problems of the patient could be made and a record of that investigation sent with him to the clinic, the work of the clinic physician would be greatly facilitated and he could devote more time to the medical aspect of the case and to actual psychiatric treatment. This can be brought about only through education. Up-State hospitals are allowed only one social worker to 75 patients on parole. A majority of these

patients are scattered over a wide area. We do not have enough social workers to make home investigations of our clinic cases or to see that the physician's recommendations are carried out. In many cases it is not only desirable but possible to make changes in the patient's home life or environment in order that he may make a successful adjustment in the community. It may be necessary to change his occupation, or for his family to move to a different locality. It may be essential to arrange that some member of the family towards whom he is antagonistic be advised regarding other living arrangements. The attitude of the family may need to be changed. The patient might profit by affiliation with recreational bodies such as the Y. M. C. A. or the Boy Scouts, etc. If his educational opportunities have been limited, he may be glad to further study in night school. Some patients are able to hold positions indefinitely but lack the initiative to secure them. In all of these contingencies, a good social worker is necessary.

The Utica State Hospital conducts four psychiatric clinics within its district: Utica, Syracuse, Schenectady and Glens Falls, respectively. These clinics not only give advice and treatment to its parole and discharge patients, but are consulting centers for the care and treatment of the community type of case. These clinics render service not only to adult psychiatric patients but also to agencies devoted to child-welfare, within the cities where they are located and to rural communities within a moderate radius.

Where clinic attendance is heavy, the parole and community cases can advantageously be seen at separate clinic sessions. This would be advisable in the case of the Schenectady clinic where the average attendance is 38, 22 of the number being community cases. Last year, the total attendance at these four clinics above mentioned was 1,756 of which 1,245 or 71.3 per cent, were community visits.

One function of the clinic is to act as a consulting center for public and private agencies wishing to decide if a patient is suffering from a psychosis necessitating care and treatment in an institution for the care and treatment of the nervous and insane. Upon the advice of clinic physicians, 25 community cases were admitted to the hospital at Utica during the past year. Some of these cases were of the borderline type and by the intensive psychiatric treatment given at the hospital, they were able to adjust and return to

their respective communities. Advice is also given as to problem cases where commitment to a correctional, feeble-minded or epileptic institution may be necessary.

The adult psychiatric clinics do not always have a psychologist to give Binet tests. It has been suggested that the social workers connected with these clinics be permitted to spend a period at some of our mental defective institutions to become proficient in the performing of this test. In order to do this test at the clinics, attendance would have to be limited and by appointment. Under present conditions, cases of suspected mental deficiency are given a few brief tests by the clinic physician and by comparing these results with available school records and degree of social adjustment, an approximate mental age is derived. Where a definite mental age and intelligence quotient is desirable, the patient is referred to a child guidance clinic.

Some disappointment has been expressed that the percentage of patients admitted to the State hospitals who have first visited mental clinics is very small. Approximately four and one-half per cent of the patients admitted to the Utica State Hospital last year had first sought advice and treatment at one of its four psychiatric clinics. This percentage will gradually rise, however, as the principles of mental hygiene become operative in the education of our children. Dr. Adolf Meyer has stated that every community of 3,000 people should have a psychiatrist. In order to carry out this idea, it would be necessary to develop mental hygiene courses in all the normal and training schools for teachers as well as in the training schools for nurses, from which latter the largest percentage of school nurses is drawn. In our medical schools, psychiatry must be put on an equal level with medicine and surgery, and more time must be given to the study of psychiatry and mental hygiene problems. General hospitals should have wards devoted to the psychiatric study of patients, and conduct psychiatric clinics.

Welfare agencies referring patients to the clinics are often disappointed at the report of the examinations. It is not sufficient to give a diagnosis. The report should give a brief summary of the family and personal history and an account of the immediate problem. It should particularly stress those factors which have brought about the present difficulty, and should state fully the physician's

recommendations relative to a new adjustment. Perhaps commitment to an institution is necessary. The average local social worker has little knowledge as to the procedure for commitment, or even the nature of the various institutions. The report should include both the procedure of commitment and the name of the institution best suited to care for the case.

It is interesting to note in connection with our clinics, that growth has taken place independently of publicity. There is no publicity in Syracuse and for the last two years, it has been discontinued in Utica. Short newspaper notices are published in Schenectady and Glens Falls where the clinics are held but once a month.

In my clinic experience, I have been gratified by the courtesy and cooperation accorded me by physicians and welfare workers. About 30 per cent of the community cases visiting the Glens Falls clinic were referred by physicians. Many physicians and welfare workers call at the clinic to talk over their cases, and the time spent with them is well worth while. By this procedure, in the case of the welfare workers, a better grade of follow-up work can be done, and a deeper understanding of the mental hygiene aspects of their work brought about. Even though these welfare workers do call at the clinic, they are sent a written report of the psychiatric examination to be placed in their files for reference at some future time in their follow-up work.

I shall briefly outline a case referred to my clinic by the secretary of the American Red Cross at Glens Falls.

CASE 1. (L. B.) The patient was a man of 38 years, with a well balanced personality, normal habits and interest and a good record at school. The study of the family yielded nothing of significance. He attributed his trouble to training days in a Georgia camp during the war when he injured his right foot jumping ditches. He stated that during service he felt a growing paralysis beginning in the injured foot and gradually working up until it involved the whole right leg and arm. He said that sometimes his body refused to move and he got all tangled up. He also said, "The trouble is, I am slow and cannot get around. I am like an old man." He also complained of tremor in the right leg and arm. Because of this slowing up, he had lost his job as garage mechanic

six months before. After this, he stated he became irritable and worried because he couldn't work.

At the examination, the patient presented a typical picture of encephalitis lethargica, Parkinsonian syndrome. His face was mask-like and there was general muscular rigidity. There was tendency to drag the right foot and the normal associated movements of the right arm were lost; it was held partly flexed. All his movements were slow; he spoke in a low monotone voice; his mental processes were slowed up. No history of an acute encephalitis attack could be obtained. He, however, stated that in the early part of 1918, while serving in the army, he caught a bad cold and did not perform his duties for three days, but was not hospitalized. This attack was probably a mild form of encephalitis lethargica. The diagnosis was made and a report of the examination sent to the Red Cross. This report was made the basis for a compensation claim which was later granted the patient.

The following case was referred to the Glens Falls clinic by a local physician.

CASE 2. (L. W.) The patient is a young man of 18 who is the older of two boys. The family history revealed that a maternal uncle was cared for in an institution for mental diseases and that his father had died of pulmonary tuberculosis at the age of 42 when the patient was about 12 years old. His mother remarried when he was 13. The patient was delicate as a child but had no serious illness. He finished grade school at the age of 15. For a short time he worked in a factory. About May, 1928, he was sent to a tuberculosis sanitarium but was discharged as an arrested case in May, 1930. He says that after leaving the sanitarium he developed a fear of insanity; he divided his illness into three stages: (1) uneasiness, (2) uneasiness in region of chest and stomach, (3) tension of mind when he feels keyed up. He said, "I don't really faint, just feel as if I am going to. When I have those spells mother is very sympathetic and wants to do everything she can for me—mother is the best friend in the world to me. If I get a job, mother says, 'if it is too hard, you must quit it.' My father had tuberculosis and I have always had it drummed into me that I would have it too." In speaking of his fainting attacks, he stated they came on him when he got excited and once when his girl called on him.

He said, "I was very comfortable at the sanitarium because I knew there was a doctor there. When I had them on the street (fainting spells) I felt I must see somebody and talk to them, and then I calmed down. Two or three times when I had an attack, I started for Dr. Dever's, but as soon as I got in front of his house I felt better."

As this case was referred by a physician, advice was given and recommendations made. However, the physician felt that this case could best be treated by a psychiatrist and so referred him back to the clinic, for further treatment. The patient's dependence on his mother and his difficulty in making an adult adjustment was explained to him. Soon he began to develop a desire to enter into the normal social activities of young people of his age and a marked improvement followed. He soon obtained a position and became self-supporting.

When interviewed on September 16, 1930, the patient stated that he was going out socially and enjoying life. Said he no longer was troubled with heart attacks and could now dance the whole evening. Said he had gained self-confidence.

In conclusion: The success of a mental clinic depends chiefly upon the number of positive contacts which can be established by the clinic physician in the community. His behavior must be ethical and his knowledge of both psychiatry and medicine such as to command respect of the profession. His value to the community must be real and not theoretical in the treatment of cases. Where cases are referred by physicians or welfare agencies, reports must not only give a correct diagnosis but offer definite recommendations as to the handling of the case. Results are demanded of the clinic physician.

REPORT OF CASES OF FOLIE A DEUX

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Special interest has always attached to cases of *folie a deux* because of the light which they throw upon the problem of environment and heredity, as well as upon the way in which false ideas may be developed.

Folie a deux is not very well defined. One definition states that it is a "A broad term which has been applied to the occurrence of mental disturbance in two or more individuals who have been intimately associated with each other." The literature would lead one to believe that there is, as a rule, in cases to which the term is applied a similarity in the manifestations of the disorder or the acceptance by one of the ideas held by the other. Three forms have been described, namely:

1. Imposed mental disease, in which an inferior or submissive individual is brought into intimate contact with a mentally ill person of a more positive make-up, and accepts the false ideas of the latter. Such ideas are usually persecutory in type. It has been said that if they are separated, the weaker individual tends to drop the beliefs of the stronger personality.

2. Simultaneous mental disease, which is characterized usually by depression or delusions of persecution which appear simultaneously in two morbidly predisposed individuals.

3. Communicated mental disease, in which the second individual accepts the ideas of the first after prolonged resistance and the psychosis persists even after they have been separated.

These forms are mentioned in order to make more clear the type of cases that comes under the term *folie a deux*.

It is not my purpose to discuss the forms mentioned, but it may be said that much criticism has been made of attempts to separate these forms.

Two sisters who present an identical psychosis have come under my observation. Their history follows: They were admitted to a State hospital June 2, 1923. Practically nothing is known concerning their early life, as it has been impossible to locate any of their relatives, and they are so taken up with their delusions that no

reliable account of their development can be obtained from either of them. There is probably a difference of about ten years in their ages—the older being about 50 years of age. The janitress of the house in which they lived said that they had lived in the house 14 years but she had only known them 6 years. She said they never visited with the other tenants of the house and scarcely answered their greetings of the day. They would never allow anyone to enter their home. They seldom went out except to purchase food and other living necessities which they usually purchased in large quantities.

A former landlord described some of their peculiar habits, such as dressing in clothes "which must have been 50 years old," and of their wearing gaudy colors on their hats which appeared to be three hats, one on top of the other, covered with a veil. Their appearance was so fantastic that whenever they went out, which was seldom, a crowd always followed them. He spoke of them, however, as very refined women and said their house was always in excellent order. They frequently talked about their ideas—the "invisible machine" and the "machine cavalier."

About five years before their admission, a married sister who lived in the south visited them. She said they were very peculiar; that she and other members of the family had offered them a home but they refused to accept the offer. The funds which they needed for their expenses came from two sisters who lived somewhere in the south. The day they were admitted to Bellevue they were dispossessed for non-payment of rent. As soon as their household belongings had been set out on the street they left and later were found wandering in Central Park talking in an incoherent manner. At the hospital they were found to have a bizarre trend of thought to which they have constantly adhered during their residence in the hospital. They believe they were made by a machine which they refer to sometimes as "it," other times as "he." Each one says that neither she nor her sister was ever born but that both have lived for thousands of years. They feel very sure that all their activities are controlled by this machine; that they will never die; that sometimes one and sometimes the other is the older. They remember some things; but not other things because the machine takes it out of their minds.

They believe the machine has always supplied them with money; that it gives them different careers and in the past they have been opera singers, great musicians and great dancers. As singers, they have sung Wagner and Verdi and have sung sometimes soprano and other time bass or tenor. They deny ever having real parents like other people. They speak of two professors who know most about this machine. They also speak about having received messages from the machine, stating that the machine used to send cavaliers to their home to entertain them.

Their only explanation for their admission to the hospital is that they lost contact with the machine for some reason which was unknown to them, but that when they re-establish contact with it their difficulties will be solved. They expressed the idea that the hospital authorities could find a way to re-establish their connection with the machine, and requested that this be done so that they might leave the hospital. They also said that they have been men, sometimes women and sometimes children.

The following interview with these patients will illustrate their ideas: "We were never born. My sister and I were made by a machine. She is not my sister, but she is nearer than a sister and we belong together by machine rules. We can not tell why. We were made by a machine. A lot of these things were taken out of my memory by a professor. We do not know how or why, but another professor did it but they are our friends. We call ourselves sisters to outsiders in order to avoid explanations. We are highly educated because it was the machine's wish. The machine is called the "invisible." We do not know how it works. We never hear voices; never saw visions. We have no sensations, no bad smells or tastes. We do not work for our living. We get it from the machine. We do not see the machine. Sometimes it changes to a person and then changes back again. Sometimes it becomes a light and we see the light sometimes. We hear it. It speaks like a person. The machine changes in time of trouble in order to give us information. We are always happy. We have seen in our life good natured singers, actors and dancers. We have both been worried about money. We could not pay our rent and were put out. My sister changed a lady to a cavalier then back again to a lady. I saw it. I change the same way. Sometimes we were two

cavaliers. We had two lives, that of a lady and that of a gentleman. We were officers in Vienna, but we liked it better to be men and not so much fuss and before we knew it, we were ladies again. We think we can love women when we were men, but we do not know. We had no religion. We were taught to believe in God. God made man and the machine made us. Others are made through man and woman. We are of a higher order and of much higher types."

During all these years, they have both clung very tenaciously to the ideas above expressed. When any attempt is made to obtain any information from them concerning their past life, they invariably revert to their ideas about the machine as given above. They spend a large part of their time doing art work in the occupational class and when not thus engaged, sit together conversing in a very low tone of voice and always making sure that no one around them hears what they say.

When interviewed together, the older sister takes the lead in conversation, the younger one quickly agreeing to the other's statements. However, when interviewed separately they express the same trends. Their replies, although colored by their delusional ideas, are relevant. They show very little interest in their surroundings, and ignore other patients on the ward. In fact, they seem quite oblivious to their environment, but are very much interested in each other.

These patients have been separated in the institution at times, but they are so much depressed by separation and the one seems to depend to such a great extent upon the other that the separation has not been continued. During the periods that they have been apart, there has been no change in either as regards the false beliefs which they hold. It is interesting to note that the dominant sister is more masculine in her physical development than the other sister. Her pelvis is narrower and she has a much lower-pitched voice. In fact, if one did not see her, one could well imagine her voice to be that of a man.

One is led to wonder about the development of the identical delusions in these sisters, and the firmness with which the same beliefs are held by each. Would they have had a psychosis if separated? If so, would the delusions have been the same? In what way did

one influence the other? It is a matter of observation that where two individuals live together, one may dominate the other to an extent that there seems to be a character change in the submissive type. It is said that husband and wife living together for a period of years are apt to become alike in their conduct and thinking. The interests of these sisters were confined almost entirely to each other. One is led to believe that the ground work for the psychosis was independent of their association and that both were potentially psychotic. However, the ideas of the dominant older sister were engrafted on and accepted by the younger.

SUCCESSFUL SOCIALIZATION AND COMPENSATION IN MANIC-DEPRESSIVE PSYCHOSIS*

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The attitude of psychiatry toward the manic-depressive psychosis has undergone important changes within the past several decades. In the pre-Kræpelinian period French investigators had already given an excellent account of the symptomatology and had distinguished several important subdivisions of this clinical entity. It remained for Kræpelin, however, to define manic-depressive psychosis still more clearly and to put it on a nosological basis, whereby it could be regarded in a more optimistic spirit. Moreover, Kræpelin started the move that led to a more comprehensive survey of this mental disorder in longitudinal section—a move that did more than anything else to create a hopeful outlook, not alone as regards therapy, but perhaps more particularly because it opened up new avenues of investigation. Kræpelin's longitudinal survey started with the clinical manifestations of the disorder and was carried forward from that point. For a long time attempts at therapy were confined to Kræpelinian delimitations. On the whole, treatment of the patient, while he is exhibiting the psychosis proper, has been largely symptomatic and has not made advances of an essential nature, save from the standpoint of more humane management.

During the latter half of the nineteenth century great advances were made in the realm of psychological medicine. Among them was an attitude that has since invaded the field of the biogenetic psychoses and has thrown new light upon them. It was the attitude that served to emphasize that mental capacities in a broad sense could suffer distortion and lead to faulty habits of expressing the biological needs of the individual. This conception did not demand a purely organic approach as the *sine qua non*, but did serve greatly to assemble and crystallize data derived from the pre-clinical life of the individual and to bring these data into align-

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ment with the clinical manifestations of the given disorder. Thus mental derangements had their causative boundaries extended far back into the field of ontogenesis and phylogenesis, and the formal symptoms of the mental disorder were regarded as one of the links in a long series of psychobiological integrations. This expansion has proved to be of tremendous value. It has opened up new vistas, new avenues of investigation; and when its usefulness can be finally evaluated, it will be found that an immense store of knowledge has been canvassed and inventoried. It cannot, of course, be estimated now just to what extent all of this information may be of practical service, but it seems entirely reasonable to carry investigations along these lines to more comprehensive limits.

The psychobiological attitude was first introduced into the circle of psychoneurotic conditions, perhaps because the relationship between the clinical and the preclinical phases of the psychoneuroses was more obvious than it was in the psychoses. Furthermore, the members of the psychoneurotic group possess other characteristics that lend themselves more favorably to this type of research. They are, in the main, more highly integrated, more communicative, more appreciative of attention and more capable of understanding the probable connection of preclinical and clinical modes of acting, feeling, and thinking. It was natural, therefore, that these newer views be tested on the most available and approachable clinical material. The trend of modern psychiatry continues on the whole in the direction of those groups of mental disorders that have proved themselves to be amenable to investigation and therapy from the standpoint of psychobiology. The point of view that claims the greatest attention is represented by the psychoanalytic school of Freud.

While all of this has been going on, there have been significant changes in the realm of the biogenetic psychoses. These changes have consisted largely in the inculcation of the same psychobiological attitude toward the apparently more malignant types of mental disorder. Progress from this angle has been slow, but the tendency is inevitable. The psychoses also are being looked upon as one of the links in a long series of personality reactions and the many other "extra-psychotic" periods of a patient's career are being subjected to intensive investigation. It was a move of incalculable

merit when the first so-termed "parole" clinic was instituted, for it signalized the application of psychobiological doctrines to the psychotic patient in the community. This was a first step and prepared the way for the enlargement of the doctrines representing this newer attitude. After attention had been called to the efficacy of treatment and management of the patient in his less profoundly distorted state, that is, in the interval between psychotic attacks, it was considered that the next step of investigation lay in the direction of the preclinical phase. The results of the latter method of approach are just being felt; what the final outcome may be is problematical, but the rationale from the research standpoint is undoubted.

The attitude of the present communication is a reflection of this newer way of thinking. It may be considered radical by some that the manic-depressive psychosis is under discussion and yet the psychosis proper is almost neglected. It will require an imagination beyond reason to identify the case material, as presented on paper, as related to the manic-depressive group. By no means is it the object of the writer to belittle the significance of psychotic syndromes, but it is definitely his purpose to stress the meaning of data that are not directly presented in the more or less circumscribed psychotic picture.

It seems reasonable to believe that the method of approach indicated in the foregoing may, under more extensive application, prove to be a forward move. It has already demonstrated its efficiency, although its exact limitations are not yet clearly defined, particularly as regards the reaction-types, that might respond most favorably to the psychotherapeutic approach. Those whose experience among manic-depressive patients is wide must know that there are certain patients whose clinical symptomatology borders on other psychotic syndromes. Some of these patients show a striking aversion to therapeutic efforts; it is quite impossible to get them to take an interest in their psychical evolution; that is, they do not cooperate when attempts are made to get at the more deeply lying factors.

The failure of certain patients to cooperate is not dependent solely upon proximity of the clinical picture to other more malignant clinical types, such as schizophrenia. It is true that a dom-

inance of schizoid elements adds difficulties to therapy, yet there are instances in which a relatively schizoid-free manic-depressive syndrome may not prove amenable to a thorough-going psychological analysis. When this is the case, the patients are usually unwilling to discuss or to try to understand possible causative factors. This situation (viz., dominance of schizoidism) creates similar therapeutic handicaps among those patients who are grouped with the "transference neuroses."

This raises the interesting question of insight. It seems that it is no longer tenable to speak of insight only in the Kræpelinian sense. There is another degree of insight. With the advent of Freudian psychoanalysis patients began to understand many of the causal relationships between their symptoms and the "buried complexes" allied to the instinctive realm. It was observed that there was a series of closely identified relationships of psychical factors extending from consciousness deep down into the unconscious field. Insight of this nature is decidedly apart from the insight that enables the patient to appreciate his mental phenomena only in terms of "morbid" or "normal." The former might be referred to as *primary* and the latter as *secondary* insight. When the secondary insight is well developed and especially when it is supported by a desire on the part of the patient to expand the insight to the primary degree, psychotherapy may accomplish meritorious results, this in spite of the implications of the terms "transference" and "narcissistic."

It seems that the dominance of schizoid or of cycloid features forms only a partial criterion of therapeutic amenability. The *wish* to be treated is at least equal in importance. Furthermore, the opinion is prevalent that a strongly fixed male or female Oedipus attitude is necessarily related to the schizoid balance and, therefore, casts less favorable light upon future integration of the individual. Is it really so? It appears that a male or female Oedipus situation may be, and often is, expressed as vividly in the cycloid as in the schizoid character. It is often principally the manner of expression that goes to make up the difference. By no means is the entire problem as simple as that, yet, a fuller appreciation of just such issues may throw light upon questions that at present are baffling.

Presumably some headway might be gained through a study of the integrative phenomena of individuals who express their psychobiological difficulties in a manner that is nominally understood by the expression "manic-depressive psychosis." Intimately connected with the question of post-psychotic integrative capacity is the prepsychotic level of integration. It is a well established observation that the subjects of this mental disorder achieve periods of remission during which morbid manifestations are relegated to the background. These individuals in the phase of remission attain certain grades of social integrity, but there is not the psychological harmony that insures future integration at the higher levels. Relapses occur with much frequency. The manic-depressive patient is not altogether unlike the schizophrenic patient who exhibits periodicity in his mental disorder. In both instances there is more or less complete return to the pre-psychotic level. The present study aims to investigate the prepsychotic and postpsychotic levels of integration, to view them by comparison, in order to determine, insofar as possible, what the potentialities for integration at higher levels may be. Moreover, special consideration is given to the possibilities of identifying and treating these patients before a mental breakdown has come about.

Adjustment and integration are closely associated. By the term "adjustment" one generally refers to the processes whereby the individual strives to attain a state of harmony and sympathy with his environment. Work subserves this end. To reach the stage of successful adjustment he must be able to center his interests in the project under consideration and to relegate other interests to peripheral, rather than central consideration. To this centralization of activities the expression "integration" is ordinarily applied; and integration is complete or incomplete depending upon the relation of energies and objectives. Adjustment is largely dependent upon integrative capacity. Both must serve a useful social function, if the individual is to acquire a successful form of adaptation. White sums this up very clearly as follows: "As we proceed from the physical through the various nervous levels to the psychological level we find that each series of functions, as they increase in complexity, also serve more thoroughly and more efficiently to integrate the individual and, therefore, make it pos-

sible for him to bring all of the energies together and concentrate them upon a specific goal. At the same time this function of integration is the very necessary pre-condition to efficiency of adjustment to the environment." When an individual coordinates his several capacities (physical, physico-chemical, sensori-motor, psychological, and social, according to White) in the direction of a reasonable goal, and at the same time temporarily subordinates other issues, it may be said that that individual is well integrated and adjusted.

Method of Approach: The wording in the title of this communication presupposes two essential facts. In the first place, the patient under consideration must have experienced an episode of a manic-depressive nature. The patients about whom these remarks center had exhibited symptoms of a florid nature—so striking, in fact, that commitment was necessary. Furthermore, only those patients are included whose manic-depressive episode had extended over several months. By such a restriction of case material some doubtful factors are removed, factors such as pronounced mood and behavior changes in patients that cannot be safely classed in the manic-depressive group.

In the second place, the term "successful" carries certain implications. The socializations and compensations should be sustained over a long period of time to be declared successful. From one to two years might be considered adequate. However, the cases to be referred to completed their treatment approximately five years ago. They were under the active treatment and management of the author for about two years and for about five years he was not in touch with them in any way, save lately when he had them appear for re-examination. The five-year period serves as an excellent control of the observations made originally. Moreover, whatever successful adjustments were made during this period came about without the aid of any physicians.

It is extremely difficult, if not impossible, to take an equal number of patients of the same diagnosis, patients who were not treated as the author treated his, and to compare the grades of socializations and compensations in the two groups. It is no idle comment to claim that each individual and his surroundings—his parents, his brothers and sisters, his companions and co-workers—are sing-

ular to him. There is no one who can go through his experiences, with actions and reactions on all sides of a similar nature. If the lack of control material from this angle be a fault, then it must remain a fault. It need not, however, be regarded as the only criterion.

There is a check that can be well utilized for comparative purposes. In each of the individuals studied and treated there were three periods—the pre-psychotic, psychotic, and post-psychotic. The first and the last periods lend themselves to comparison in a manner that cannot be otherwise accomplished.

The case material at our disposal is small—seven patients. It was purposely kept small because the author was given the opportunity of working only with a number of patients that could be handled in an intensive manner. Throughout the period of observation, the author was free to spend as much time as he desired with each patient.

During the height of the psychosis every effort was made to gather as much material as was possible. It was a period of accumulation of data—mental and physical. Treatment of physical factors was instituted promptly. No formal attempts at psychotherapy were rendered until the manic-depressive attack had subsided sufficiently to insure reasonably good emotional contacts with the patient. From that point on the “transference” gradually improved in the majority of instances. Although the physician had amassed a wealth of information from observations during the psychotic period, he did not make any direct attempt to give the patient an understanding of its deeper significance. Rather, the information was taken as the starting point for further elaboration. It was sufficient to give the patient the opportunity to talk about those matters after the psychosis had ended; as a rule he spoke freely and showed a keen desire to understand the motives responsible for the manifestations of his illness.

The same spirit of cooperation, however, is not always present. In fact, there is a certain number of patients who do not at any time demonstrate a willingness to know about their fundamental problems. They are resistive from the start, as resistive, indeed, as some advanced schizophrenic patients. The resistance is consistently maintained throughout the period of clinical remission.

It is considered that this negative form of transference comprises one of the prominent differences between patients who have but a single manic-depressive reaction and those who experience repeated attacks. A series of attacks sets up a vicious circle. It indicates not only a poorly integrated personality, but it is usually associated with resistance to treatment. The *wish* to get well and to maintain one's mental health is a tremendous aid to the successful application of psychotherapeutic principles.

In the preliminary plans only those patients in a first psychotic attack were selected for intensive investigation and treatment. Selection from this standpoint contributed toward uniformity and has led to the expression of some opinions that might under other conditions be rendered less tenable. It was not known what the results might be. There were few reports in the literature to serve as guides, although the opinion was prevalent among a certain group of therapists that there was a possibility of achieving more beneficial results through a psychobiological approach than had been possible under other therapeutic attempts.

Some of the patients responded very favorably. Others were appreciably assisted to adjustment at a higher level than that to which they had formerly adapted themselves. There was a third group that was not at all benefited. It must be said, with regard to the last group, that the members thereof exhibited an unusually severe resistance to any form of contact. The patients refused treatment of any nature. It seemed that their aloofness was traceable to the tendency to perpetuate emotional attachments to prepubertal forms of activity. It was impossible to instill in them a desire for better modes of adaptation. At other times there was a desire for improvement, but it was more in the nature of an infantile wish for omnipotence.

There is a definite feeling as a result of this survey that there are many patients in the manic-depressive group that react favorably to measures that tend to raise their level of socialization. Indeed, many patients accomplish a great deal as a result of insight gained almost entirely by themselves. The results on the whole are agreeable and it seems that they will be more agreeable when patients are treated before any mental disorder in a formal sense has occurred.

Although no strict psychotherapeutic technic was utilized, the conceptions of Freudian psychoanalysis were of inestimable value. They were largely drawn upon. Ordinarily it is a matter of many months of therapy before one feels that the patient has secured insight of a nature that seems to insure successful socialization. Furthermore, it is often desirable to correct certain problems among the patient's associates. The parents in particular, or their surrogates, and the members of the sibship, frequently require attention. They are not asked to sacrifice their feelings in order to protect the patient, but suggestions are often given that tend to remove irritants between them and the patient.

There is as yet no definite technic for the treatment of manic-depressive patients. Sometimes the classical approach, represented by the Freudian method, is the procedure of choice. At other times that is impossible. Perhaps one of the reasons why it is more difficult as a rule to apply formal psychotherapy to the psychoses rests on the consideration that psychotic patients are far less differentiated from their environment than are psychoneurotic individuals. A psychoneurotic subject is treated largely as an entity; it is far more difficult, however, to think of a psychotic patient as such; one rather conceives a psychosis as distinctly a part of the total environment. One treats a psychotic matrix, of which the patient is a part. As a correlative it might be mentioned that the question of socialization and compensation in most psychotic individuals is a question also of the socialization and compensation of his (immediate) environment. It might almost be granted that certain psychoneurotic reaction-types can be treated as if they existed exclusively by themselves, but it rarely happens that the same can be claimed for the psychotic types. For example, in the subjoined recitation of case material, it is not easy to select the star actor. There are several characters in significant rôles.

CASE MATERIAL

J. Cr. No. 64674. A glance at the subjoined outline enables one to gain the salient features in the case of John, a sensitive young man, who when he was first seen by the physician exhibited a puerile (Edipus attachment, characterized by pronounced ambivalent tendencies towards his father and step-mother. The father, meek and mild-mannered, was a puppet in the hands of an aggressive (second) wife, who, failing to live out her love life in her husband and her own son, turned to John (a step-son). But, step-mother and step-son were equipped with puerile methods of response. Finally, both

displayed intense morbid reactions the greater on the part of John, who passed through a manic-depressive period. In the meantime, the step-mother experienced intense feelings of guilt, which were overcome by a sacrificial attitude. Later John married and the step-mother adapted herself on a more adult level to her husband. John is 35 years old.

EPITOME OF EMOTIONAL OBJECTIVES

1. Patient, John, born in 1895.
2. Age 17 months; mother died.
3. Age 3 years. Father remarried; step-mother emotionally tied to her own son, but patient out-manoeuvred him for emotional control of step-mother. Constant emotional ambivalency.
4. Age 8. Half-sister born. She took over the bulk of John's emotions for years.
5. Through John's puberty and adolescence the half-sister was his love object.
6. Age 23. John's father died. John and his step-brother vied for the role of the father. The stepbrother won.
7. Age 24. John was forced to detach himself from his half-sister. He struggled for months to regain her, but was unsuccessful.
8. Age 26. First attempt at object-love outside of family; partial success, punctuated with episodes of instability and regression to step-mother.
9. Age 27. Intimate resumption of mother-son attachment paralleling separation from finances. (Edipus struggle revived. Further futile efforts to resume heterosexuality.
10. Age 27. John developed pronounced depression; step-mother became unstable and paranoid.
11. Age 27. Hospitalization and treatment.
12. Age 29. John married.
13. Age 29-35. Good adjustment—marital, social, economic.
14. Somatic expression of emotions was on the whole naturally exhibited.

It would appear from the foregoing epitome that the patient's emotions were dominantly given over to the management of the (Edipus situation. That is true insofar as fundamental conflicts were concerned; and perhaps on this observation, more than on any other, rests a most influential reason for the favorable outcome. The fact that the struggle was carried on with objective forces, forces outside of the patient himself, leads one to believe that from early childhood up to the time of the development of the psychosis proper, John had achieved a degree of socialization and compensation that rendered a good outlook. Furthermore, the (Edipus struggle was waged without the aid of somatic delusions. At no time were hypochondriacal issues of much consequence in the furtherance of the relationship between John and his step-mother or between him and others who helped to shape his career.

In other words, his libido was at no time rooted to the soma in an unnatural manner. This phase of libidinous development was carefully investigated and it was seen that in its evolution certain portions of the libido were applied to somatic structures to a natural degree; they did not become fixed to physical routes of expression.

When John first came to the hospital he was depressed and expressed ideas of suicide. He was not retarded. On the other hand, he was moderately active, generally displaying resentment against men of middle age and sometimes striking them. During the psychosis proper he dramatized the Oedipus situation to the relative exclusion of other trends of interests. He struck men who occupied the role of the father-*imago*; he claimed he had been checked from marrying the girl "who was just like my step-mother." There were three women in his life, upon each of whom he bestowed attributes that he believed his mother to have possessed. They were his step-mother, his half-sister, and his sweetheart. Although the three differed in many respects, John saw in them only the endowment that he wished to see, namely, the image that he had constructed of his mother.

It is a matter of no small consequence, however, that, though he behaved towards these women generally in a puerile manner, he attempted to replace the original love object (the mother) by women who were further and further removed from her. Such a series of adaptations represented an important degree of socialization and compensation. The pivotal issues of his life revolved around the management of the Oedipus situation as it presented itself to him in its various ramifications. To be sure, that is a very trite observation—the Oedipus plot is often the nuclear theme of the functional psychoses.

It may or may not be a handicap to the understanding of John to be unable to reconstruct his first 17 months. He was under his mother's care up until that time, when she died. From the 17th to the 30th month he was largely under the influence of his father, but he was also under the care of nursemaids. Little of a positive character is known about the importance of these situations to John's development.

There is a vast amount of detailed information regarding his life from the third year on. It is sometimes surprising to observe how

far back in one's life one can remember. John recalled with an unusual degree of clarity many of the events of his third year. Perhaps it is not to be wondered at, when it is realized that many individuals retain their childhood level of adaptation as the level of choice and accept future demands for adjustment at higher levels as impositions foreign to their desires. It is understandable, then, how John clung to his childhood—his emotions were chiefly related to that period, while at the same time he was able to institute an alleged and disguised attachment to social and intellectual achievements of adolescence and later adulthood. Sublimation was incomplete, yet it was developed to an extent that permitted further elaboration when years later he appeared for treatment.

When John was about three years old, his father remarried. The step-mother entered upon the scene in a manner significant to future relationships. She had been brought up under the rigid discipline of a puritanical mother who exercised herself with some ardor in the martyrdom of chastity. The step-mother's mother lived out a fair share of her emotions along channels of symbolic homosexuality, the step-mother having been the principal recipient of the mother's unconscious drives. John's step-mother chafed under the discipline and married, not out of love for her husband, but out of hate for her mother, and for the homosexuality that was evident in their relationship. The daughter (later to become John's step-mother) was unhappy in this first marriage. A child was born whereupon the mother (John's step-mother) converged her interests in the child, a boy. The parents were soon divorced. Such was the setting from the step-mother's side when she married John's father. She was an aggressive, domineering woman, fundamentally nurtured in a homosexual environment. She made an unsuccessful attempt at heterosexuality, finally regressing to the childhood level of her son. The latter situation was not to last long for she again elevated her level, though with some niggardliness, when she married a second time—to John's father.

John's father was meek and timid, a steady worker, providing moderately well for the economic welfare of his family, but not of much influence in moulding their emotional careers. He was subservient to both his wives. The latter were unqualifiedly the heads

of their respective households. His second marriage brought him in contact with a woman whose capacities for marital adaptations were in advance of the marital. It will be seen that with failure of the second marriage to accomplish what the step-mother had hoped for, there was a regression on her part to the homosexual manifestations that comprised one of the major fields of her earlier activities.

So much for the background as it appeared in John's early childhood. The reason for its emphasis lies in the consideration that out of it grew many of the reasons for the predominating elements of the (later) psychotic period. To be sure, one cannot claim with rigid certainty that any one set of facts was responsible for the psychosis, but it can hardly be denied that the setting was highly instrumental in the production of the psychosis. Indeed, it seems entirely reasonable to believe that John's capacities for socialization were present at all times and that they were checked from full development, not alone by his own tendencies to retain his childhood, but also by the influences that were brought to bear upon him from the outside. That is a rank platitude. However, psychiatry has at least one merit—it has taken the alleged flatness out of sociological and psychological platitudes. It has utilized those platitudes to valuable therapeutic ends.

John's step-mother was again frustrated when she failed to gain from her own son the needs of her unconscious tendencies. She turned to John, yet she did not relinquish a striking ambivalent attitude toward her own son. This triangular situation persisted for the next several years. On one occasion, because John and his step-brother expressed their rivalry with too much enthusiasm, the latter was placed in his grandmother's home. This arrangement permitted John and his step-mother to engage in unbridled love and hate. Their feelings were generally expressed with immoderate intensity. On rare occasions the father intervened, and as a rule, it was for punitive purposes. For a long time John tried to get his father to leave the step-mother. John was extremely fond of his father, but the latter was dispassionate.

It cannot be said that the family attitude was without socializing influences from the standpoint of John, although it is conceivable that some changes might have benefited all. John's tendencies

were to cling to childhood expressions of narcissism. It was clear that he tried to inveigle the members of the family into coddling and petting him, into intensifying and perpetuating his childish reactions. The step-mother said that John loved her too much, that he was too strongly bound to her. "I couldn't get the love from my own son that John gave me. He was like a little girl, sentimental and sensitive. I liked it all, but it made him look so sissy-like."

She added that her life was made fuller through her interests in him. Indeed, she was happy because he was effeminate, for it enabled her to gain an outlet for her latent homosexual tendencies. John had the potentialities for more advanced development, but they were kept in abeyance partly through the influence of the step-mother's attitude.

Although his early childhood was replete with frustrations, these were not altogether without beneficial effects. They might be looked upon as tests of integrative capacity. Quite unwillingly he accepted the tests. It is probably difficult to give a fair valuation to his adjustive potentialities, for up to this age (pre-school) he had not tested reality other than that represented by the activities in his own home.

It is important to know, however, that he had advanced in certain ways. The struggle between John and his elders had resulted in an ego-construction that was not far from that exhibited in children who eventually attain healthy adulthood. The primary narcissistic nucleus of the ego was destined to later modifications of a favorable nature. One does not expect high organization of the instinctive tendencies in early childhood. John was just at the age at which he was ready to test his ability to bring the instincts into alignment and thereby to establish a more or less substantial super-structure. Furthermore, it is evident that a part of the primary narcissism was being devoted to the physical and to the psychological in a manner that one might expect in a child of his age. In other words, the construction of the ego-ideal was progressive, although it was experiencing a great deal of difficulty. One should not expect too high a development from a child whose ego-ideal is taken largely from a passive father and an unstable step-mother. The conflict taking place between the ego-ideal and primary nar-

cissism had not yet had the advantage of being influenced from the standpoint of social demands. "Reality-testing" was soon to take place on a higher level and the successive experiences to which John was put in "reality-testing" comprise the remaining account of his psychobiological integrations up to the present time.

When John was six years old he entered school. For the first time he met several new situations. Among the latter there were three important changes. In the first place he had to adapt himself to new mother-substitutes, namely, to his teachers. This meant a partial relinquishment of object-libido from the step-mother and a reinvestment of it in his teachers. This he managed to accomplish with no small degree of success. Much can be learned about children in a survey of their emotional activities in school life, since by a careful study the several directions that the libido takes can be recognized with some degree of clarity. In the case under consideration, for example, the libido that had formerly been devoted principally to the step-mother and, to a lesser extent, to the father, was broken into several components. A significant share was extended in the direction of a particular school teacher, who thus became an important mother-substitute; as John expressed it, "she was like a mother to me and I was like a son to her; it was great because we didn't fight all the time." The relationship was obvious to his classmates who called him "teacher's pet" and "mama's boy." He failed to be promoted one year and the reason, he explained to the physician, was his fondness for a woman teacher. He was not trying to make light of his failure, and he seemed sincere in the explanation that his "love" for the teacher undoubtedly played a significant part in the failure. He remembered distinctly that he hoped he would fail, so that he could remain with her for another term. All that happens in a schoolroom is not scholarship. These examples could be multiplied several times. They would simply support the observation that John took new personalities into the formation of his ego-ideal, thus socializing the Oedipus situation a grade in advance of the former direct attachment to the step-mother.

Another portion of his interests went into the support of scholastic affairs. He was an average student and was unable to distinguish himself in this field, though he made several attempts. It

appeared that his chief concern in school was to establish emotional rather than intellectual contacts with his teachers.

There was still another particularly cogent reason for his diminished interest in scholarship. His step-mother gave birth at this time to another baby—a girl. This happened when he was eight years old and the baby's arrival signalized a marked change in him. John claimed her with such fervor that others in the family were virtually cast aside. She was his baby. He adopted the maternal role, doing all that was possible for her care. In other words, this was the supreme opportunity for him to reidentify himself with the mother or step-mother. Indeed, from this period on until he developed a psychosis (19 years later), his half-sister was identified with his major activities. He took her as his baby, and in her adolescence she became his sweetheart. Still later, when she rejected him for a beau outside of the family circle, he became despondent. While in this mood he became acquainted with another girl who was, as he said, just like his half-sister. It was at this point that the step-mother, who had been seething for years, because she could not rival her daughter for John's affections, gave vent to the homosexuality that lay so near the surface and she interrupted the relationship between John and his new girl. The step-mother produced a richness of homosexual invectives against the girl, while at the same time she reanimated the emotional bonds that had formerly obtained between herself and John. The result was a clear-cut psychosis on the part of John and a less clearly defined mental disorder from the side of the step-mother.

John was both father and mother to his half-sister. The odd situation was created whereby John and the step-mother became rivals for the affections of the half-sister. This situation led to further difficulties in that John's more or less complete identification with the maternal role gave rise to a more pronounced separation of John and the step-mother. The latter was a desirable step, yet it is questionable if the change served to elevate John's adaptive capacity. It seems, on the contrary, to have thrown him back into his earlier childhood. It seems that he started life over again—probably from this standpoint the rebirth exerted a favorable influence. It was rebirth in connection with a new object. Just such a principle is known to have an important bearing on the

progress of one's life. Some individuals must experience a series of rebirth situations in order to guarantee successful socialization.

It is vastly important that the half-sister was able to make steady progress toward adulthood, because John had so intimately identified himself with her that, if it had been her fortune to remain fundamentally fixed to the childhood level of adaptation, it is quite probable that John would have remained there also. The half-sister, eight years his junior, brought him up emotionally, and eventually, when he was about 23 years old, she began to challenge him to socialize his interests outside of the family circle. Indeed, she represented the "ideal" mother, having carried him through the successive phases of the Oedipus situation—a task that the step-mother was quite unable to achieve. At the same time the half-sister herself benefited by the arrangement, because under the mother's guidance alone she would have experienced greater difficulties in emancipating herself from the female Oedipus plot and, more especially, from the homosexual components thereof.

What would a psychiatrist, trained in child guidance work, have recommended, if he had seen the family situation, say, when John was 12 years old? The situation was this. Five members of a family. From whatever angle they are seen the majority are hyphenated; John was the nucleus; he had a father, a step-mother, a step-brother, and a half-sister. Too much stress, however, should not be placed on the hyphens. There is just as much reason to believe that the fundamental drives of the five characters of this drama would have been expressed much as they were, if the hyphens had been erased. Too frequently a hyphen serves the function of a rationalizing agent. Instincts are instincts in spite of artificial additions.

The child guidance specialist is faced in this instance with a boy of 12, who is being brought up by a girl of 4. The two are inseparable. The mother stands close by, trying to wedge her unconscious homosexuality into the situation. She fails. Heterosexuality of the higher order is not available to her, for the husband is out in the offing, alone with his narcissism. The orthopsychiatrist could have mapped out a particularly useful and helpful program. Judging from what happened subsequently without any professional aid, it is reasonable to conceive an excellent result through

his efforts. He probably would have accomplished in about a year's time, what chance circumstances, together with two psychoses, took several years to do. It is doubtful if he would have permitted the sister to have served as the most important vehicle of expression for John's growth; and he would have remedied the unhealthy tendencies of the step-mother.

Was John at the time successfully socializing and compensating his instinctive trends? He had already exhibited potentialities for successful adjustment. He had invested a good part of object-libido in school teachers and in his half-sister. The important point to bear in mind is the flexibility of his emotions before he entered puberty. It was true that he had not settled his instinctive needs upon the most favorable objectives, but it was also true that he was capable of so doing. It is doubtful if a psychiatrist in possession of all the facts connected with this particular family situation would have rendered an unfavorable prognosis.

When John came into puberty he was about 13 years old. His previous attitude toward sexual matters was rejection of everything connected therewith. He refused to play with boys who even inferred the existence of sex. Although he knew that women bore children, he would not let himself believe it. Like so many other sexually repressed individuals, he would not accept the idea that reproduction was accomplished through sexual congress. However, he accepted the truth at a much later period, when a girl with whom he had consorted suggested that he might be interested in the disappearance of her menses. But this information is in advance of the degree of socialization that was observed at puberty and early adolescence.

At puberty John refused to recognize the needs of his genitals. In the refusal he exercised himself with fear. He attempted to compensate the latter in several ways. First of all, he became rough in play; he became the hero who overthrew all evil. It was a very ingenious form of compensation (sublimation). He organized a group of boys of the neighborhood into a "theatrical" unit. Generally he was the hero, whose fairplay and decency conquered evil influences. Sometimes he was the villain, but villainy was not his forte. In the second place, he caused some of the sexual energy to flow in the direction of building—he built houses and furnishings

on a miniature scale for his half-sister. Besides, another share of energies went into drawing—mechanical drawing, generally of firm, substantial objects. In his school work he devoted most of his time to this form of drawing. It was evident that the phallus was symbolized in a large part of his work. At a later date, when he had left school and was working, he expressed his sexuality in a very subtle manner. Briefly related the events were as follows: He said he was successful in overcoming sexual desires whenever he kept busy doing things of a constructive nature. He left school, he claimed, because he wanted to be a man, “to do things as men do them, to earn money and be big.” From his first salary he bought himself a pair of long trousers. “It was like a new life,” he stated. “I was a man when I got them.” The result of this new adaptation was a salary, “which was power and manhood.” The thrill of all of it was culminated when he gave the salary (manhood) to his step-mother. “I was the happiest man in the world—long pants and manhood and a salary.” The Oedipus situation thus had another means of expression—another form of socialization. At a later period, especially when other factors entered that drew him away from the mother again, he directed the power (sublimated sexuality) to his half-sister.

When John was about 22 years old, his half-sister was coming into puberty. During the next several years she was his sweetheart. It was often said by all who knew them that they resembled sweethearts and that they did not seem to be brother and sister. Under this arrangement John adapted himself quite happily. He and his (half) sister injected their interests in social affairs. They went to dances and to house parties. They met a large number of people of their own age. John was an apt pupil to the socializing influences of his half-sister. She raised him steadily out of puerile and into adult habits. It was evident throughout that she took leadership in the process. She taught him how to externalize his interests. Soon John became “the life of the party” and to all outward appearances he was a happy, well-adjusted young man. During the next few years John gave less and less of his salary to his step-mother and spent progressively increasing amounts on his girl—his half-sister. That was a symbolic way of indicating the reapportionment of his libido—from the step-mother to the half-sister.

John could not, however, dictate the course that his sister was to take. On the contrary, she quietly and steadily tested his capacity to adjust himself without her. This she did with conscious planning, for it was common knowledge that a perpetuation of their intimate associations was not desirable. The half-sister had to handle the situation delicately. At first she accepted the attention of young men only in an open and highly conventional setting. Even then John protested with no little vehemence. It was not at all uncommon for John and his half-sister to spend evenings alone, he objecting to her interests in young men, she defending herself against his accusations that the young men were indecent. Finally, after a few years, she was able to announce that she was in love with another. She had been preparing John for just such an arrangement for a long time. She was uncertain as to how he would accept the ultimatum. While all this was going on the step-mother stood by without much comment. She did not oppose her daughter's interests in boys outside of the family. It was clear that she was again becoming the object of John's affections; he was falling back upon her almost in direct proportion to the steady decline of love between him and the half-sister. There were occasions when John was deeply disheartened for days at a time. These periods of depression grew more frequent and more intense, culminating in the full-fledged psychosis for which he was sent to the hospital.

When one looks only for the external manifestations of mental disorders, it appears that the onset in the manic-depressive group is sudden. This is often an erroneous impression and the difficulty seems to lie in the neglect of proper evaluation of lighter, though important attacks, that are almost invariably found on close inspection to antedate the major attacks.

The fundamental problems in the prepsychotic career of a manic-depressive patient are difficult to distinguish from those in other biogenetic psychoses. The differences, though superficially marked, are essentially unimportant, at least insofar as the direction of instinctive drives is concerned. Furthermore, the manner by which the tendencies are handled by the individual offers no remarkably basic dissimilarities. It is doubtful if psychiatry would suffer much of a loss if all of the biogenetic mental disorders (from the psychoneuroses to the psychoses) were grouped under a single

heading. It might be mentioned parenthetically that it is fortunate that the psychoanalyst, being in private practice as a rule, sees early and incipient symptoms of mental disorder. He undoubtedly finds it exceedingly difficult to distinguish the so-called benign from malignant reactions; under present knowledge he evidently encounters reactions that cannot be easily catalogued; they may be classed either with the "transference" or with the "narcissistic" neuroses. When the psychoanalyst has time for calm retrospect from the standpoint of nosology, it is quite possible that he may find out that his successes include an unusually large number of patients, who, if untreated, might have developed a full-blown psychosis. For instance, if one knew nothing more about John than that which has been presented thus far, what diagnosis would one make? A psychosis? Perhaps. A psychoneurosis? Just as tenable. Of course, the psychoanalyst would not have measured his patient by either standard. He would have inspected the phenomena of "transference" and "resistance." Whether he could have gained any definite help in differential diagnosis through the latter is questionable.

The step-sister experienced some severe handicaps in her attempt to socialize John. At the age of 20 John was still coy. "I was awfully bashful. If a girl spoke to me I blushed and a lump came to my throat. I couldn't talk to girls. I was too polite. The result was that girls teased me and even when I was around the age of 20 and 21, I'd find a reason for going home when girls got familiar." He stressed the point that he was a gentleman in the extreme. He was careful not to offend girls. He claimed that he was not at all interested in them sexually. "It was only the companionship I wanted. I went with fellows, too, and if they had been girls I could have married them."

When John was 23 years old his father died. He then made a grand move to become the head of the house. "I thought I should be the head; I was a man and was earning pretty good money at the time; and, too, I should have taken my father's place." There was an intense struggle that lasted several months. Eventually John became, as he put it, "just a boarder" at the house. He had lost out to his step-brother. This proved to be a fortunate loss, for it meant that he could not regress; he had to test reality further.

When he was 27 years old he made the first attempt to "keep company" with a girl. His half-sister helped him. His step-mother and step-brother were firmly entrenched in the conduct of household affairs and they shared emotions on that basis. The half-sister was engaged to marry. John felt that she had jilted him. He was incompletely prepared to objectivate his interests. It is significant that he chose to pay attention to a girl who was "just like my step-mother, even to the first name." John and his girl met often, but he was afraid to let his step-mother know that he had a girl, for she had often warned him that girls were prostitutes, and that prostitutes carried diseases that deprived men of their manhood. The fear of castration was prominently emphasized.

Finally, three months later, John introduced his girl to the step-mother. The introduction marked the period of rapid decline in adjustment from the standpoint of John and his step-mother. The latter entered upon a mental disorder, characterized in the main by homosexual expressions. John became morose. He was unable to meet the needs of adjustment to the new situation. He suspected that the girl was unfaithful to him, yet he knew she was not. His attitude was much as it had been in the earlier associations with his step-mother. In fact, there was evidence to show that with the new girl he was redramatizing a portion of the Oedipus tragedy. The new girl was essentially a mother substitute. He heaped upon her the love and hate that in his unconscious was linked with the step-mother. During hospitalization he said, "She was just the girl for me. It was Heaven when I was with her. It was just what I had always longed for. Her name was Mary; that was my mother's (step-mother's) name; my name is Jack; my father's name was Jack. But, it was hell, too. I couldn't trust her." By this trend he clearly identified his situation with that of his parents'. There was, however, an additional feature that gave rise to the collapse of the love affair. It must be understood that John had invested his sweetheart with the attributes of angelhood. Indeed, she was more in the nature of a phantasy, a chimera, possessed of all the finer qualities that he imagined his mother and step-mother to have, and devoid of all that was disagreeable. But, he was having untold difficulties in trying to keep sexual issues out

of the situation. Sex was sinful and debasing. He was considerably embarrassed when thoughts of it occurred. Finally he engaged the girl in sexual intercourse, whereupon a tremendous guilt feeling was developed. Sexual congress was too closely identified with incest. He thought of suicide. Regression was pronounced. Eventually he was hospitalized.

He was greatly relieved when he was sent to the hospital, that is, the guilt feeling was considerably ameliorated. Hospitalization was psychological suicide. It removed him from all the painful situations that were coming from outside sources. It also partially satisfied the need for punishment that was so strongly developed at this time. He was self-condemnatory, regarding himself as a total failure. He had not, however, given up the struggle. He was energetically opposed to the father-*imago* and on several occasions he expressed his antagonism by physical encounters.

He remained in the hospital for four months. This was in 1922. During that period he was studied carefully; it was a period of accumulation of data; toward the end of the hospitalization period a good transference was established and psychotherapy was instituted. He showed a willingness to go into an extensive survey of his life and he gained excellent primary insight into the several factors that have been referred to in this summary. He was treated for about a year after his discharge from the hospital.

One of the most important factors that contributed to family harmony was the treatment of other members of the family, particularly of the step-mother. She was readily amenable to the suggestions made by the physician. When she was first seen she spoke of her own guilt; she was keenly aware of the part she had played in John's life and she was prepared to make amends. She summed up her attitude in the following terms: "I'm sure John and I were too fond of one another. I thought more of him than I did of my own son. I really loved him. But, I see now that it wasn't good for him. I should have encouraged him to have a girl; instead, I thought it was bad for him. He was a lovely boy; he did everything for me." She was acutely aware of the fact that she had inadvertently kept John's childhood alive at the expense of adult forms of activities that he should have adopted. She knew she had been too emotional and that her judgment had been warped when

she tried to prevent John from having a girl. She said she loved him so much as a baby that she could not bear the idea of his becoming a man. At the same time she knew that he liked to be coddled; her fault, she said, was in helping him to sustain his childhood. It was necessary to give her insight, although that was not done with the same thoroughness as it had been undertaken with John. For all practical purposes, however, the situation was remedied through indirect means (suggestion and advice). There was little to do about the half-sister's part, since it was clear that her attitude had not been a hindrance in essentials. On the contrary, she had been a decided help in the progressive sublimation of John's infantile and puerile manifestations.

For a period of almost seven years now John has been progressively applying himself to higher levels of personal, social, and economic adjustment. He eventually settled upon a type of work that was agreeable to him and still later, when he felt that he had a good grasp of himself, he married. He has been married now for about five years to a girl of his own age and he accepts the masculine role in an adult spirit that harmonizes well with that of his wife. He does not have a puerile attitude towards his wife. She is not the mother-surrogate that he formerly longed for; he sees her, not as the object of his childhood emotions, but rather as the object of his adult needs. In other words, he has become well socialized and integrated.

Discussion: John's case is not at all novel to anyone who has taken the pains to investigate thoroughly all the factors that go to make up a life history. It does not seem advisable to speak of a precipitating cause either in the manic-depressive or in other groups of the so-termed biogenetic psychoses. There is generally a series of factors, each one linked more or less intimately with others and all finally allied to the instinctive sphere. The degree of socialization and compensation in any individual can be traced satisfactorily only by an appreciation of the more deeply lying elements that go to make up the entire life of the individual. It has probably appeared unconventional to present a case of manic-depressive psychosis with hardly any mention of the psychosis proper, not even from the standpoint of descriptive psychiatry. But, at most, the psychotic period, as a more or less circumscribed

series of events, made up about three per cent of his life span. From this way of reasoning one might even go so far as to suggest that a psychotic episode is relatively unimportant to psychotherapy. This statement, of course, should not be construed too literally. Nevertheless, it cannot be over-emphasized that the constituents of a psychosis are ordinarily the residuals of a long series of complex events, arranged in a hierarchy. The psychosis simply forms one of the subdivisions.

An individual's career is made up not only of his own instinctive cravings, but also of the cravings of others. This attitude is especially helpful in the proper evaluation of those mental disorders subsumed under the expression "narcissistic neuroses." The individual who gets to the physician's office is generally but a part of a family or communal group. It is unusual to find that he is the only one who has psychiatric problems that can be improved by therapy. Moreover, psychiatric problems witnessed in others commonly bear a striking influence upon the patient who first seeks the aid of the psychiatrist. Sometimes the psychiatrist has to treat a family psychosis although the manifestations may be more marked in the individual who makes application for treatment. The individual's reactions are a resultant of instinctive processes, not only of those arising within himself, but also of those that come to him from without. Hence, when socialization and compensation are under consideration, one must inevitably take into account the patient and the several personalities that he has incorporated within himself. This implies, in other words, a clear understanding of the emotional streams as they converge from several angles upon the subject under treatment. Adjustment and capacity for adjustment can be evaluated by such an approach. For example, it seemed evident that the various personalities involved in John's problems, as well as John's problems themselves, were amenable to adaptation at some higher level. They had not been tested under the best circumstances. When such an examination was made possible, it was seen that favorable results were achieved.

It must be asked whether such a tremendous amount of labor is necessary to insure good results. Is it possible that John and the others would have adapted themselves in a fairly satisfactory manner, if psychotherapy had not been instituted? It is, perhaps, ex-

pressing it vaguely, but was not the psychosis itself the psychotherapeutic agent *par excellence*? It caused the separation of the conflicting personalities; it permitted the repressed elements in John to break through the conscious and unconscious resistances; it reanimated the intense guilt feelings in John and his step-mother and thus paved the way for atonement. The psychosis acted as an emotional catharsis. There is sufficient evidence, however, to show that catharsis in itself does not comprise sound therapy, because it is not accompanied with insight into the causative factors of the psychosis; furthermore, catharsis is a hodge-podge, an indiscriminate mixture, that does not serve to bring together instinctive tendencies and their correlates; there is nothing orderly in catharsis. Conscious and unconscious forces of resistance are only apparently broken through. When the psychosis is over, the resistances resume their former status. It must be evident to anyone who has interrogated a patient at any time after a manic-depressive episode, that is, a patient, who has not been treated psychotherapeutically, that there is great resistance to a review of the contents of the psychosis and, moreover, there is complete lack of primary insight. When this situation prevails, the possibility of a recurrence of the psychotic episode is great.

Some of our manic-depressive patients, with whom we labored equally as thoroughly as we had with John, consistently rejected all efforts at a calm, consecutive, and orderly arrangement of the several factors that contributed to the development of their psychosis. Psychoanalysis, or "resistance analysis," was futile from the start. It seems that the first sign of success in the psychotherapy of any of the biogenetic psychoses is the development of the *wish* on the part of the patient to understand the causes of the mental disorder. Success does not invariably follow, yet, it is remarkably higher among those who desire to understand. Sometimes the psychiatrist has to work patiently to develop the wish. This is especially true in the psychoses.

John wanted to know why he developed a mental disorder. He cooperated extremely well, so that a complete analysis was possible. He cannot speak at all in technical terms, yet he is fully acquainted with the multiple aspects of his former problems; he knows the direction of his libidinous stream and he is in a better

position to guide it in his future activities. This type of insight, it is believed, comprises the major difference between a patient who has been treated psychotherapeutically and one who has not.

It is our impression that by and large there is not any striking difference in the level of socialization attained by the individual who later enters upon a manic phase over and above the one whose fundamental reaction is of the depressive order. From the standpoint of descriptive psychiatry the dissimilarities are prominent, but the basic disorders are rooted to the same general instinctive cravings. In both instances psychotherapy strives to correct these similarly determined conflicts.

In neither instance—the manic or the depressive phase—is psychotherapy instituted in any formal sense while the morbid reaction is acute. It is frequently impossible to do so, even though the psychiatrist may wish to start treatment then. One must wait for the establishment of good rapport. The first steps are generally taken with caution, because it frequently happens that for a few days or even for a few weeks the patient may create a false attitude of “transference.” Treatment during a phase of this kind may not be helpful. There is no special harm in waiting until such time as it appears relatively certain that the psychosis proper is well out of the way. Therapy applied against the free cooperation of the patient ordinarily creates a disagreeable attitude between the physician and the patient—an attitude that may present real difficulties to the further application of treatment. The same general principles hold here as they do with mental patients of any diagnostic group who are about to undergo intensive psychological analysis.

Psychotherapy is a remarkably long continued procedure. It is not at all the forte of those who must gain results promptly. To be sure, this is an unfortunate state of affairs and the day will be welcomed when a simple gesture may transform the sick into the healthy. Psychotherapy is exasperatingly uneconomical. Perhaps this is unavoidable, particularly because of the present state of our knowledge. At any rate, those who treat by intensive psychotherapy have set themselves a huge task. For instance, when they start to treat a manic-depressive patient, they know that they must cover in detail the entire past life of the patient. As was mentioned in

the case of John, from the standpoint of the time element alone, his psychosis comprised only 3 per cent of his total career. There had to be as thorough a study as possible of the remaining 97 per cent. In no other field of medicine is there a close second to such a huge task. It is manifestly impossible to treat successfully the majority of mental disturbances, if psychotherapy must content itself with the present regime. Nevertheless, it is necessary and advisable to pursue current methods in the hope of formulating a more concise program of therapy without sacrificing effectiveness.

It seems warranted to point out that in the manic-depressive psychosis successful socialization and compensation is achieved by a fair proportion of patients, even after a psychosis in a formal sense has been experienced. Theoretically one should expect more wholesome results in the treatment of those cycloid personalities that border on psychopathy. It appears that among a certain percentage an appreciably high level of integration is possible through the medium of intensive psychotherapy. The degree of improvement can be sustained thereby for years. The form of psychotherapy is largely drawn from the psychoanalytic concepts of Freud and is most efficiently applied before or after the psychotic episode.

For this communication we were able to select seven patients of the manic-depressive group. Each patient was subjected to the same thorough methods of investigation, and, whenever possible, psychotherapy was carried to more or less completion. Only those patients were selected who began treatment in the calendar year 1922. This was a purely arbitrary delimitation. It has the advantage of time as a test of the opinions expressed.

The therapeutic responses varied among the seven cases. The most successful outcome occurred in the patient whose record is outlined in the foregoing. At the other extreme was a young man, 17 years old, who was studied while in his first attack and who was treated psychotherapeutically for about ten months after the attack had subsided. It would probably be more accurate to say that attempts at therapy were made during the period of ten months. He never cooperated freely and he showed no inclination to understand the motivations of his life activities. On the contrary, he was resentful even in the matter of keeping appointments with the physician. He visited the physician's office with a feeling of

duress. He never overcame that attitude. He has since had several manic-depressive attacks and his attitude on the whole, as regards willingness to try to appreciate the nature of his difficulties, has remained as it was at the start. He is immovably anchored to the protection of his narcissism. From the standpoint of descriptive psychiatry there is nothing especially striking about his case; he exhibits a clear-cut picture of manic-depressive psychosis; he possesses good insight of secondary grade; that is, he knows that he is mentally sick. Moreover, he gains periods of recovery from the attacks and therein works regularly; but he is not well integrated. He is childlike in social contacts. Intellectually, he is capably endowed, yet he cannot engage his intelligence in the service of socialization, save in a meagre sense. All methods of approach have thus far proved futile.

It might be added that all of the patients referred to in this communication were intensively studied from the standpoint of focal infection, not to mention other thorough investigations from the physical angle. While it was considered helpful to take care of all known physical difficulties, no fundamental correlations were established between the physical problems present and the mental states.

THE DURATION OF HOSPITAL LIFE FOR MENTAL PATIENTS

I—PRELIMINARY PAPER

BY RAYMOND G. FULLER, DIRECTOR,

AND

MARY JOHNSTON, STATISTICIAN

*Study of the Occurrence and Social Significance of Mental Diseases in New York State**

What is the duration of hospital life for mental patients? How does it vary by age, sex and psychosis? How is it related to outcome? These and similar questions, which will be stated more explicitly as we proceed, fall within the scope of a study in which we have examined the hospital histories of more than 37,000 first admissions to the civil State hospitals of New York. One of the interesting findings of this inquiry is the fact that the majority of mental patients, judging by the experience in New York, are in hospital either a very short time, all told, or a very long time. This is strikingly true of dementia præcox, of which there are more long-time cases than short-time cases, but not so many more as the nature of the disease might lead one to expect. In manic-depressive psychoses, approximately 60 per cent of first admissions, according to our data, have a total hospital residence of less than a year, with some but comparatively few long-time cases.

The histories included in this study are those of all first admissions to the civil State hospitals during three periods of two years each, omitting the small number who were diagnosed as "not insane" or "without psychosis." These three periods (hereinafter called "selection periods") are as follows: October 1, 1909 to September 30, 1911; October 1, 1914 to September 30, 1916; and October 1, 1919 to September 30, 1921.

The histories were followed, in each case, from date of first admission up to and including June 30, 1928, by reference to the card records on file in the Statistical Bureau of the New York State Department of Mental Hygiene. For purposes of clarity in the

* A research project conducted under the auspices of the State Charities Aid Association in collaboration with the State Department of Mental Hygiene. Dr. Horatio M. Pollock, Director of the Statistical Bureau of the Department, is serving the study as consultant.

presentation of the data, however, the duration of hospital life of patients whose first admission occurred in the first selection period will be shown in this and a succeeding paper for a maximum of exactly 16 years; of patients first admitted in the second selection period, for a maximum of exactly 11 years; and of patients who entered hospital for the first time during the third selection period, for a maximum of exactly 6 years.

Thus we have three periods of observation, corresponding with the three selection periods. It should be understood that the observation period of 16 years means that the record of every individual patient first admitted in 1909-11 is complete for a period of 16 years, with respect to such items of information as discharge, re-admission, death, or continued presence in hospital. Similar statements may be made of the later selection periods and shorter periods of observation. The data will be presented separately for each of the selection periods, because of the difference in the length of time during which the cases were observed, and because of whatever interest and value there may be in comparing the findings for the several periods of selection and observation.

The duration figures on which our tables and charts are based are taken directly from the card records of the Statistical Bureau and represent in this paper the actual time spent by the patients in any of the civil State hospitals, exclusive of parole. This, of course, does not show all the time during which the patient was on the hospital books or under hospital supervision. Account will be taken of parole in a later article. We shall also take account of first residence as well as total residence, and of differences between one-residence patients and repeaters.

Note may be made here of interesting differences in the diagnostic composition of first admissions in the several selection periods. Table I shows a remarkable increase in the number and proportion of dementia præcox patients. The increase in the number of arteriosclerotic patients in 10 years a little more than counterbalances the decrease in the number of alcoholic patients. The proportionate representation of the other diagnostic groups among first admissions shows slight change.

TABLE I. DIAGNOSTIC COMPOSITION OF FIRST ADMISSIONS DURING THE THREE SELECTION PERIODS, 1909-11, 1914-16 AND 1919-21

Psychoses	Period beginning					
	1909-11		1914-16		1919-21	
	Number	Per cent	Number	Per cent	Number	Per cent
Manic-depressive	1,579	14.3	1,868	14.9	1,873	13.9
Dementia præcox	2,481	22.4	3,549	28.3	4,119	30.6
Senile	1,200	10.9	1,192	9.5	1,270	9.4
Arteriosclerotic	273	2.5	680	5.4	1,070	7.9
Alcoholic	1,104	10.0	789	6.3	322	2.4
General paralysis	1,553	14.0	1,669	13.3	1,654	12.3
Other psychoses	2,860	25.9	2,803	22.3	3,165	23.5
Total	11,050	100.0	12,550	100.0	13,473	100.0

In this instalment of the report on Duration of Hospital Life, we shall deal with a portion of the material relating to two diagnostic groups, dementia præcox (schizophrenia) and manic-depressive psychoses, which are the two largest differentiated groups in respect to the total number of first admissions during the selection periods.

DEMENTIA PRÆCOX (SCHIZOPHRENIA)

During the three selection periods, 10,149 dementia præcox patients were admitted for the first time to the civil State hospitals. Of these, 2,481 were admitted in 1909-11, 3,549 in 1914-16 and 4,119 in 1919-21.

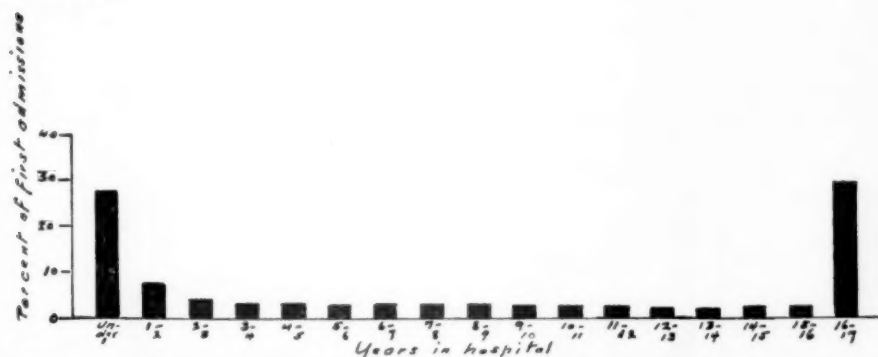


CHART I—DEMENTIA PRÆCOX—Percentage distribution of all first admissions, 1909-21, according to duration of hospital life during a 16-year period of observation

In Chart I is shown graphically the percentage of the first admissions of 1909-11, according to the number of years spent in hospital during a 16-year period of observation. Table II furnishes the

data upon which the chart is based. As several kinds of information are included in this table, some explanation of terms is necessary in order that its meaning may be clear.

TABLE II. DEMENTIA PRÆCOX—TOTAL DURATION OF HOSPITAL LIFE OF ALL FIRST ADMISSIONS, 1909-11, DURING A 16-YEAR PERIOD OF OBSERVATION

Total duration of hospital life	All first admissions		Outcome			
	Number	Per cent	Discharged as		Died in hospital	In hospital at end of period
			Recovered or improved	Unimproved		
Under 1 year	682	27.4	346	236	98	2
1 to 2 years	179	7.2	97	37	40	5
2 to 3 years	110	4.4	46	17	43	4
3 to 4 years	77	3.1	22	8	42	5
4 to 5 years	78	3.1	28	7	36	7
5 to 6 years	55	2.2	8	1	34	12
6 to 7 years	70	2.8	8	4	52	6
7 to 8 years	61	2.5	8		41	12
8 to 9 years	66	2.7	10	3	47	6
9 to 10 years	56	2.3	8		37	11
10 to 11 years	57	2.3	11		37	9
11 to 12 years	57	2.3	9	1	32	15
12 to 13 years	42	1.7	11	1	22	8
13 to 14 years	40	1.6	2		24	14
14 to 15 years	56	2.3	3	1	28	24
15 to 16 years	56	2.3	2		29	25
16 to 17 years	739	29.8	1		16	722
All durations	2,481	100.0	620	316	658	887

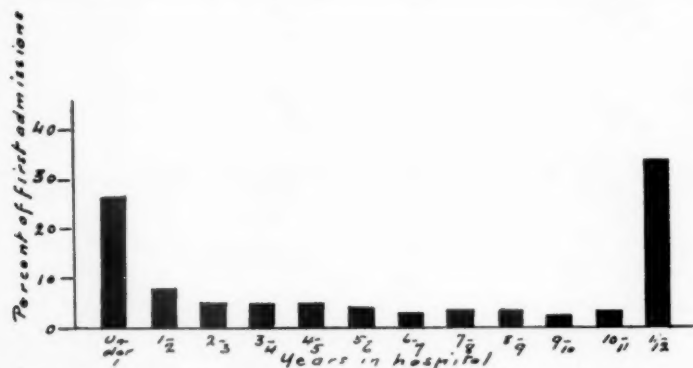


CHART II—DEMENTIA PRÆCOX—Percentage distribution of all first admissions, 1914-16, according to duration of hospital life during an 11-year period of observation

TABLE III. DEMENTIA PRÆCOX—TOTAL DURATION OF HOSPITAL LIFE OF ALL FIRST ADMISSIONS, 1914-16, DURING AN 11-YEAR PERIOD OF OBSERVATION

Total duration of hospital life	All first admissions		Outcome			
	Number	Per cent	Discharged as		Died in hospital	In hospital at end of period
			Recovered or improved	Unimproved		
Under 1 year	937	26.4	599	193	143	2
1 to 2 years	268	7.6	148	20	85	15
2 to 3 years	176	4.9	55	16	98	7
3 to 4 years	170	4.8	35	16	99	20
4 to 5 years	177	5.0	55	35	72	15
5 to 6 years	120	3.3	33	19	51	17
6 to 7 years	99	2.8	30	5	41	23
7 to 8 years	110	3.1	21	10	44	35
8 to 9 years	103	2.9	15	8	38	42
9 to 10 years	77	2.2	9	4	31	33
10 to 11 years	106	3.0	9	2	31	64
11 to 12 years	1,206	34.0	4	1	25	1,176
All durations	3,549	100.0	1,013	329	758	1,449

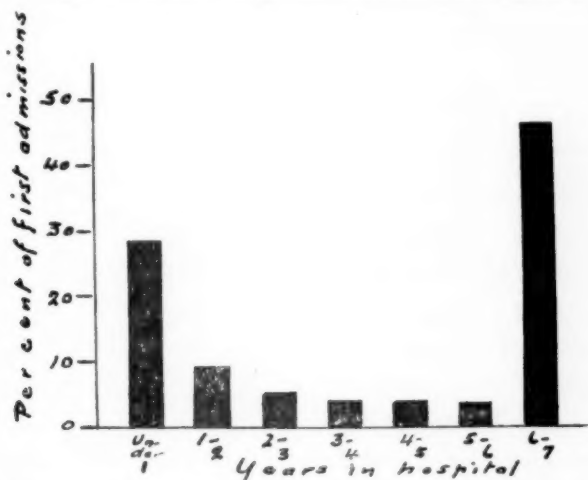


CHART III—DEMENTIA PRÆCOX—Percentage distribution of first admissions, 1919-21, according to duration of hospital life during a 6-year period of observation

The heading, "Outcome," refers to the outcome reported by the hospital doctors after the most recent hospital residence. The first column under "Outcome" shows the number of admissions

whose last reported condition, on discharge, were favorable; that is, "improved," "much improved," or "recovered." The "unimproved" cases are reported in the next column, this category including a large number of cases discharged for deportation and hence without either a favorable or an unfavorable outcome in the medical sense. The fourth column gives the number of first admissions who were in hospital at the end of the indicated period of hospital life.

TABLE IV. DEMENTIA PRÆCOX—TOTAL DURATION OF HOSPITAL LIFE OF ALL FIRST ADMISSIONS, 1919-21, DURING A 6-YEAR PERIOD OF OBSERVATION

Total duration of hospital life	All first admissions		Outcome			
	Number	Per cent	Discharged as		Died in hospital	In hospital at end of period
			Recovered or improved	Unimproved		
Under 1 year	1,163	28.2	769	226	159	9
1 to 2 years	362	8.8	186	54	88	34
2 to 3 years	219	5.3	73	26	76	44
3 to 4 years	158	3.8	42	13	58	45
4 to 5 years	160	3.9	35	10	54	61
5 to 6 years	139	3.4	11	6	49	73
6 to 7 years	1,918	46.6	12	3	50	1,853
All durations	4,119	100.0	1,128	338	534	2,119

Careful attention must be given to the meaning of the intervals of time (duration of hospital life) employed in the table. These are not periods of time, necessarily, running continuously from the date of admission. They are periods representing all the time the patient has actually spent in hospital at any time or times during a possible total of 16 years.

The table must be understood as follows: Out of all the 2,481 first admissions in 1909-11, 682 or 27.4 per cent had a total hospital residence (whether in hospital once or more than once) of less than one year's duration; 346 of these were discharged, according to the most recent records, as "improved," "much improved," or "recovered," or in other words, 346 patients with a favorable outcome had a total duration of hospital life of less than one year.

These are among the outstanding facts shown by the table. The fourth column gives information concerning 222 repeaters who were in and out of the hospital during these years,* and also shows that 722 patients, or 29.1 per cent of the total first admissions, had a total duration of hospital life equalling or nearly equalling the full 16-year span of observation.

Table V shows that 665 of these 722 patients were in hospital at the end of the 16th year after a single continuous residence. It also shows that 57 of the 722 had more than one residence, but their time out of hospital was less than a year. The data in Table V indicate the gravity of the administrative problem of the hospital system with regard to the long-time chronic cases, which form so large a proportion of the first admissions diagnosed as dementia præcox.

TABLE V. DEMENTIA PRÆCOX—FIRST ADMISSIONS WHOSE HOSPITAL LIFE EXTENDED OVER THE PERIOD OF OBSERVATION

Period beginning	Total		One hospital residence		More than one hospital residence	
	Number	Per cent of total admissions	Number	Per cent of total admissions	Number	Per cent of total admissions
1909-11	722	29.1	665	26.8	57	2.3
1914-16	1,176	33.2	1,080	30.5	96	2.7
1919-21	1,853	45.0	1,780	43.2	73	1.8

The foregoing discussion has related chiefly to the first admissions of 1909-11, but data relating to the first admissions of later periods are presented in the accompanying tables and charts. Of first admissions, 1914-16, 937, or 26.4 per cent, spent less than a year in hospital. Five hundred and ninety-nine patients, or 16.9 per cent of the total group, were discharged as recovered or improved in less than a year of hospital life. Of first admissions, 1919-21, 1,163, or 28.2 per cent, had a hospital residence of less than a year, and the number of these for whom the outcome was favorable was 769, or 18.7 per cent of total first admissions.

The differences between selection periods are much greater when we consider the percentage of first admissions who spent all or

* In the original source tables, one residence patients and repeaters were reported separately, but in the tables in this article, summary figures for both groups are used.

practically all of the observed period in the hospital (Table V). Needless to say the later admissions were observed over shorter periods of time, and the percentages are accordingly affected by the incompleteness of the data pertaining to the total duration of hospital life of repeaters and chronic cases.

MANIC-DEPRESSIVE PSYCHOSES

During the three selection periods from which we have drawn cases for study, 6,320 manic-depressive patients were admitted to the civil State hospitals: 1,579 in 1909-11; 1,868 in 1914-16; 1,873 in 1919-21.

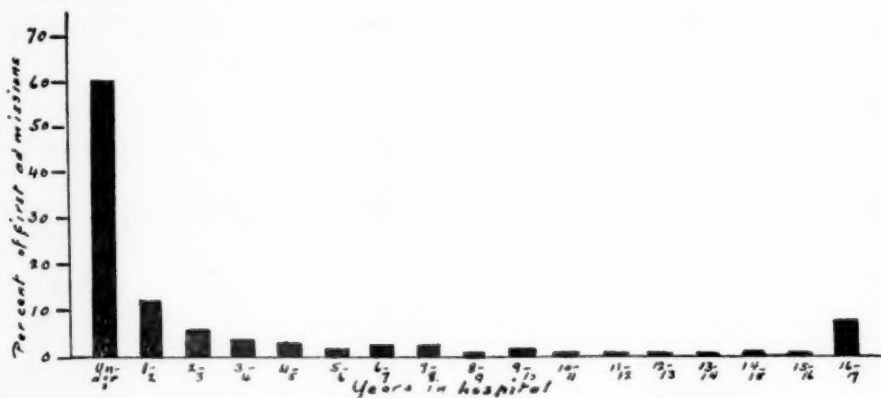


CHART IV—MANIC-DEPRESSIVE PSYCHOSES—Percentage distribution of all first admissions, 1909-11, according to duration of hospital life during a 16-year period of observation

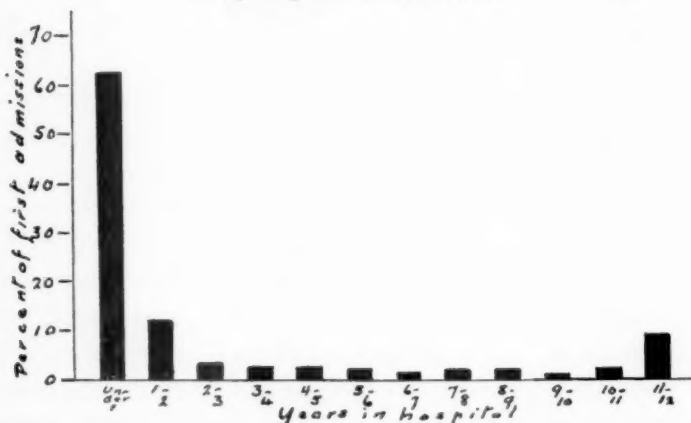


CHART V—MANIC-DEPRESSIVE PSYCHOSES—Percentage distribution of all first admissions, 1914-16, according to duration of hospital life, during an 11-year period of observation

The picture as to duration of hospital life differs markedly from that for dementia præcox, though there are points of similarity. Duration of less than a year now becomes the duration period of utmost importance. Durations co-extensive or practically co-extensive with the periods of observation are comparatively few, notably with regard to the first admissions of the first and second selection periods, which afford periods of observation of 16 and 11 years respectively. In spite of the number and frequency of readmissions among manic-depressive cases,* the total duration of hospital life is brief.

TABLE VI. MANIC-DEPRESSIVE PSYCHOSES—TOTAL DURATION OF HOSPITAL LIFE OF ALL FIRST ADMISSIONS, 1909-11, DURING A 16-YEAR PERIOD OF OBSERVATION

Total duration of hospital life	All first admissions		Outcome			
	Number	Per cent	Discharged as		Died in hospital	In hospital at end of period
			Recovered or improved	Unimproved		
Under 1 year	942	59.7	718	85	137	2
1 to 2 years	188	11.9	143	9	30	6
2 to 3 years	81	5.1	47	4	24	6
3 to 4 years	49	3.1	21		22	6
4 to 5 years	43	2.7	15		19	9
5 to 6 years	21	1.3	6		10	5
6 to 7 years	28	1.8	5		14	9
7 to 8 years	26	1.7	7		13	6
8 to 9 years	10	.6	2		2	6
9 to 10 years	15	1.0	5		5	5
10 to 11 years	13	.8	3		4	6
11 to 12 years	7	.4	2		3	2
12 to 13 years	7	.4	1		1	5
13 to 14 years	8	.5	2		2	4
14 to 15 years	11	.7	1		5	5
15 to 16 years	9	.6				9
16 to 17 years	121	7.7				121
All durations	1,579	100.0	978	98	291	212

* Cf. Fuller, R. G.: "Readmissions in the Hospital History of Mental Patients During Eighteen Years Following First Admission," *PSYCHIATRIC QUARTERLY*, January, 1931.

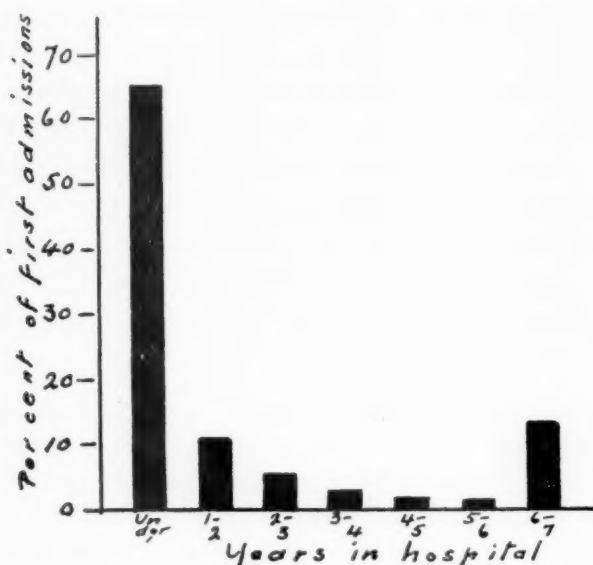


CHART VI—MANIC-DEPRESSIVE PSYCHOSES—Percentage distribution of all first admissions, 1919-21, according to duration of hospital life, during a 6-year period of observation

TABLE VII. MANIC-DEPRESSIVE PSYCHOSES—TOTAL DURATION OF HOSPITAL LIFE OF ALL FIRST ADMISSIONS, 1914-16, DURING AN 11-YEAR PERIOD OF OBSERVATION

Total duration of hospital life	All first admissions		Outcome			
	Number	Per cent	Discharged as		Died in hospital	In hospital at end of period
			Recovered or improved	Unimproved		
Under 1 year	1,164	62.3	914	28	212	10
1 to 2 years	224	12.0	166	7	31	20
2 to 3 years	80	4.3	51	1	17	11
3 to 4 years	50	2.7	23	1	17	9
4 to 5 years	42	2.3	24	1	9	8
5 to 6 years	33	1.8	10	3	11	9
6 to 7 years	21	1.1	4	2	7	8
7 to 8 years	28	1.5	10		4	14
8 to 9 years	25	1.3	7		11	7
9 to 10 years	13	.7	1		4	8
10 to 11 years	23	1.2	3		6	14
11 to 12 years	165	8.8	1		1	163
All durations	1,868	100.0	1214	43	330	281

The tables and charts show, among other facts, that 59.7 per cent of the first admissions of the first selection period, 62.3 per cent of second-period admissions, and 65.1 of third-period admissions spent less than one year in hospital. Even more striking are the data concerning those for whom the outcome of hospital life was favorable. Seven hundred and eighteen patients or 45.5 per cent of all first-period admissions; 914, or 48.9 per cent of all second-period admissions; and 903, or 48.2 per cent of all third-period admissions, were discharged as "recovered," "much improved" or "improved" after less than a year of total residence. In other words almost one-half of all first admissions, did not remain in hospital as long as one year before they were discharged as "recovered," "much improved" or "improved."

TABLE VIII. MANIC-DEPRESSIVE PSYCHOSES—TOTAL DURATION OF HOSPITAL LIFE OF ALL FIRST ADMISSIONS, 1919-21, DURING A 6-YEAR PERIOD OF OBSERVATION

Total duration of hospital life	All first admissions		Outcome			
	Number	Per cent	Discharged as		Died in hospital	In hospital at end of period
			Recovered or improved	Unimproved		
Under 1 year	1,219	65.1	903	55	248	13
1 to 2 years	212	11.3	156	8	24	24
2 to 3 years	92	4.9	60	2	19	11
3 to 4 years	49	2.6	21		16	12
4 to 5 years	31	1.7	12	1	7	11
5 to 6 years	26	1.4	3		10	13
6 to 7 years	244	13.0	1		6	237
All durations	1,873	100.0	1,156	66	330	321

There are chronic cases among manic-depressive patients but their numbers are much smaller than in dementia præcox. This is shown in Table IX.

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TABLE IX. MANIC-DEPRESSIVE PSYCHOSES—FIRST ADMISSIONS WHOSE HOSPITAL LIFE EXTENDED OVER THE PERIOD OF OBSERVATION

Period beginning	Total		One hospital residence		More than one hospital residence	
	Number	Per cent of total admissions	Number	Per cent of total admissions	Number	Per cent of total admissions
1909-11	121	7.7	111	7.0	10	0.7
1914-16	163	8.7	154	8.2	9	0.5
1919-21	237	12.6	218	11.6	19	1.0

BOOK REVIEWS

The Life of Herman M. Biggs, M.D., D.Sc., LL.D. Physician and Statesman of Public Health. By C. E. A. WINSLOW, Dr. P. H. Lea and Febiger, Philadelphia.

Dr. Herman M. Biggs was graduated from the Bellevue Medical College in 1883. At that time the annual death rate from typhoid fever fluctuated between 20 and 30 per 100,000 population in the State of New York. A death rate of 100 and over was not unusual for diphtheria. Pulmonary tuberculosis reached a rate of 228.3 per 100,000 population in 1890. What a change we observe 40 years later! With but one or two minor fluctuations the typhoid fever death rate has steadily declined, reaching 1.4 in 1929; diphtheria has shown a similar decline to a minimum rate of 5.6 in 1929. Pulmonary tuberculosis which had taken a customary toll of around 200 lives per 100,000 population annually, had fallen to 72.4 in 1929, the lowest rate ever recorded in the State of New York. Accompanying these significant reductions in death rates, came a corresponding increase in the expectation of life at birth. Whereas an infant born in 1880 would have been expected to live 40 years, an infant born 50 years later has an expectation of surviving about 55 years.

Part of these great gains may be attributed to the generally improved standards of living, but it would be idle to deny the preponderent claims of sanitary science. Only a few years prior to the beginning of Dr. Biggs' medical career, Pasteur had announced the germ theory of disease. There followed the discovery of the cause of diphtheria, of tuberculosis and of other diseases. Out of these epoch-making contributions came a new science of preventive medicine.

As a student, Dr. Biggs had turned eagerly to the fields of bacteriology and pathology and shortly after graduation had spent five months in post-graduate research in Germany. When he returned, his life career was marked out for him. His was to be the great task of applying the new knowledge to the upbuilding of the science of preventive medicine and the improvement of public health.

Professor Winslow's story of the life of Dr. Biggs, evidently a labor of love, reads like a romance. We begin with his contacts at the Carnegie Laboratory in New York City and we follow his early achievements in the control of cholera, and the treatment of rabies. Following a pioneer attempt at publicity in connection with the fight upon tuberculosis, came the

first thorough program, announced in 1893. In the previous year Dr. Biggs had organized the division of pathology, bacteriology and disinfection in the New York City Health Department. With this as his instrument, Dr. Biggs devised a program for the control of tuberculosis which included the reporting of cases, visits to homes by medical inspectors, examination of sputum, separation of tuberculous patients from other patients, the erection of municipal hospitals for the treatment of tuberculosis, terminal disinfection of homes, and publicity as to the nature of the disease, and necessity of early diagnosis and treatment. The attack on tuberculosis became nation-wide, ultimately world-wide and everywhere the basic program remained that promulgated by Dr. Biggs. Years later, towards the close of the World War, Dr. Biggs, through the instrumentality of the Rockefeller Foundation, was enabled to repay part of the world debt to Pasteur by organizing an anti-tuberculosis campaign in France.

A single achievement of this type would have sufficed an ordinary individual but Dr. Biggs was many-sided. To him we owe the successful application in this country of the use of anti-toxin in diphtheria. Every practitioner of public health will gain inspiration by reading the story of Dr. Biggs' success in carrying through this administrative program. Following the diphtheria campaign, came well organized efforts at reducing infant mortality and of devising nursing and dispensary services. He was among the first to attempt to control that great modern plague—venereal disease. All this Dr. Biggs did primarily for New York City, but so world-wide was his influence that Dr. Koch once told him that though "most of these bacteriological and serological discoveries came from Germany . . . I must admit that we are years and years behind you in their practical application."

Later Dr. Biggs was instrumental in the creation of the New York State Public Health Law recognized as a model of its kind; and being unable to refuse the insistent call, he finally accepted the position of State Commissioner of Health, in which capacity he again achieved extraordinary results.

Bearing in mind that synchronously with this active life in public health, Dr. Biggs maintained an extensive private medical practice and a professorship at the Bellevue Medical College, we must marvel at a mind which displayed such fertility of ideas and capacity for work.

France recently honored herself by awarding first choice to Pasteur as the man who had done most for that country. New York State has not yet had the opportunity to express a similar choice but few will doubt that in such an eventuality the State will follow in the steps of Cornell University, Dr. Biggs' alma mater, whose student body has awarded him the distinction of being the most illustrious of her sons.

MALZBERG.

Bandaging. By A. D. WHITING, M. D., formerly Associate in Surgery at the University of Pennsylvania. 155 pages with 117 original illustrations. Third edition, revised. Cloth, \$1.75 net. W. B. Saunders Company, Philadelphia.

This excellent little book is intended for beginners and contains many practical features admirably suited to aid the student in mastering the art of bandaging. It is divided into three parts, and is sufficiently comprehensive in its treatment of the subject to deserve a place on the bookshelf of all medical and nursing students.

Paper and print are of the best quality, the descriptive context is simply arranged, clear, concise and the student is led from the simple, single roller to the more complicated "doubles, reverses and spicas," by aid of many illustrations taken from actual life. The bandages illustrated have the edges blackened so all spaces, crossing of the turns, etc., stand out clearly and the student should have little difficulty in following the text, even in the absence of an instructor. The photographs are in good focus, evidently made on contrast paper of special quality and the background selected with care, so that each picture tells its story almost without words.

The widespread use of the adhesive strip is tending to do away with many of the older and more complicated roller bandages; nevertheless, it is essential for medical and nursing students to be familiar with the underlying principles of bandaging. The author emphasizes the advantage of the muslin roller over the one made from gauze which, in his opinion, should be abandoned except for certain special bandages.

Part I opens with a description of the use of bandages, the different materials out of which they may be made, and the method of machine and hand rolling of bandages. Beginning with the application of the single roller bandage and describing in simple detail the fundamental bandages, he goes on to the special bandages for particular conditions, giving the proper width, the uses, and in concise, graphic sentences and appropriate illustrations shows exactly how to obtain the results desired.

Part II takes up the various tailed bandages, but since very few are now used in surgery, he confines himself to those applicable to the most varied conditions. Recognizing the possibilities in emergencies of substituting for bandages, he has in Part III devoted considerable space to the triangle or handkerchief bandages, as applied to the head, trunk, or extremities.

GRAY.

The Abilities of Man. Their Nature and Measurement. By C. SPEARMAN, Ph. D., F. R. S. Pp. 415. Price \$4.50. The Macmillan Co., New York.

In mental testing practice has surpassed theory to such an extent that the latter has not even been regarded as important. Several attempts had been made to ascertain the elements of intelligence as measured by mental tests, but each investigator has come to a different conclusion. Terman has tried to close the debate by maintaining that the testing can be done just as well without knowing the true nature of that which has to be tested. He compares the case to that of electricity. This has been investigated and measured with great accuracy although its real nature is unknown. Similarly, argues Terman, intelligence can be measured. "But here lies a danger of confounding two widely different things," remarks Spearman. "There is the inward nature of the electricity; and then there are its outward manifestations such as the movements of the galvanometer. The former need not necessarily be known, but certainly the latter must be . . . Analogously, we may perhaps dispense with knowing the 'pure essence' of intelligence; but assuredly we cannot test it without having decided which mental operations belong to its domain."

This, in fact, is the main problem of Spearman's book. The first part gives a critical exposition of the various theories held of mental abilities. The second part is a summary of studies continued for more than 20 years in Spearman's laboratory and together with many experiments which have been conducted in America. As a result of the deficiency of the reviewed theories, Spearman presents an eclectic theory of his own, the two-factor theory of intelligence. "The one part has been called the 'general factor' (G); it is so named because although varying freely from individual to individual, it remains the same for any one individual in respect to all correlated abilities. The second part has been called the 'specific factor' (S); it not only varies from individual to individual, but even for any one individual from each ability to another . . . Although both these factors occur in every ability, they need not be equally influential in all." In order to test his theory with the experimental findings, Spearman devised a mathematical criterion, which he calls the tetrad equation formula. If this formula gives zeros throughout a table of correlations, then the G and the S may be said to exist without overlapping of the S's. Spearman's analysis of the experimental data has confirmed his views and has shown that the tetrad equation is a valuable means for the classifying of various tests and for the discovery of interrelationship between mental abilities. Furthermore, it has led to the discovery of other general factors, beside G, possessing functional unity or acting as behavior units. Perhaps the most important

is general mental inertia or perseveration. It would seem to have an especial importance in psychiatry. Altogether Spearman finds four factors for which he claims the character of universality.

Spearman's technique and theory, closely connected with each other, have proved reliable scientific bases for mental testing. It is reassuring to find again that academic psychology can analyse the human mind objectively and scientifically. However, to avoid a misrepresentation of psychometric work it is well to keep in mind that the mental test technique is statistical in nature and that statistical laws relate to the behavior of crowds. Hence, although the average may be regular, any individual case may show tremendous variation. This means that psychometric results cannot directly be applied to individual psychology. They furnish, however, a picture of the average human mind; and this is a necessary basis for any objective individual psychology. It is, of course, of special importance for psychiatry and abnormal psychology, which needs a reliable norm and standards by which to compare and measure individual deviations.

The two-factor theory of intelligence assumes the existence of a total and more or less undifferentiated, nervous energy together with some degree of interdependence of brain cells. The evidence of this cited by Spearman is indirect and not wholly convincing since it is based largely on analogy. As a matter of fact, K. S. Lashley, in his recent neuroanatomical study of behavior (*Brain Mechanisms and Intelligence*), has experimentally indicated a general mental factor such as Spearman's theory requires.

The reading of Spearman's book demands no special mathematical training as the mathematical proofs are relegated to the appendix and are not essential for the understanding of the text, which is both simple and clear in style.

Z. PIOTROWSKI.

The New Generation. The Intimate Problems of Modern Parents and Children, Edited by V. F. CALVERTON and SAMUEL D. SCHMALHAUSEN. With an introduction by Bertrand Russell; 717 pages. Price \$5.00. The Macauley Company, New York.

Ellen Key once named this, the century of the child. To her this meant that after a period of long social evolution, society had at last recognized its obligations to children, and that it had undertaken to assure them of high standards of health, education and protection. Then along came the Great War, with its wave of iconoclasm, and among the idols so vigorously attacked, was that of doing something for children. In the light of the new psychology, we were assured that what children suffer from is the very

process of doing things for them. So in the past decade impetus has been given to the movement which seeks to liberate children from the bonds fashioned by their parents. Paradoxically enough one might say, that instead of parents doing something for children, the newer thought is that children shall emancipate their parents.

All of the newer radical beliefs with respect to the relation of the sexes to each other and the reciprocal relations between parents and children are set forth in the several essays, comprising the above volume. Whatever views—or prejudices—one may have on the subject, he will profit by a thoughtful consideration of the essays. Some of them are of great significance from a scientific point of view. Bronislaw Malinowski has contributed a very valuable paper, dealing with parenthood and the relation of the sexes in primitive society, setting forth original observations and theories, tending to support more conservative attitudes on the subject. Margaret Mead, author of "Coming of Age in Samoa," has ably reviewed the customs associated with adolescence in some of the south sea islands, and has shown that social control, though ever present in one way or another, is not inconsistent with a freer and more liberal attitude toward sex. The extreme attitude, however, is that assumed by John B. Watson, who would remove children from their parents altogether, and have them brought up by specialists. This is a position which is viewed with sympathetic interest in Soviet Russia, and is already practiced to a certain degree. The psychoanalytic point of view, with its stressing of the Oedipus complex and other sexual sources of behavior is presented by a list of contributors including Wilhelm Stekel and Bernard Glueck.

Much of the discussion of the newer generation necessarily centers about the topic of education, and the possibilities of utilizing the resources of children to a greater degree. Professors Terman and Pintner describe the nature of intelligence tests, and their application in the search for potential genius, and others describe schools in which children are encouraged to express their creative impulses. Other chapters deal with special problems among children, such as perversions, discussed by Havelock Ellis, and obscenity, discussed by Phyllis Blanchard.

Many of the indictments raised against parents are in the nature of broad statements, largely incapable of objective proof. They are primarily indications of newer social attitudes, which seek to justify themselves by a vigorous verbal onslaught on the old. But the absence of rigorously defined evidence is no reason for refusing to consider the problems. Thoughtful readers will do well to study this volume of essays.

MALZBERG.

Emotions of Men. By FREDERICK H. LUND, Professor of Psychology, Temple University. \$2.50. McGraw-Hill Book Co., New York, 1930.

This work is a popular series of essays, suitable for the general reader rather than for a scientific study of the problem of emotions. It is based on the notion that emotions shape the lives of men more than reason and reflection. This may be doubted; men are slower to reflection and reason than to emotion, but in the every-day world of affairs and work it is probable that reason and reflection play a far greater part than emotion.

There are chapters on, "Emotions as Our Prime Movers," "How Emotions Shape Man's Beliefs," "How Emotions Direct Man's Thinking," "What Strong Emotions May Do to Us," "The Physical Basis of the Emotions," "Why Do We Weep," "The Love Emotion," "Emotional Differences in the Sexes," "The Aesthetic Emotion," "Vicarious Satisfaction of the Emotions," "Emotions in Dreams," "Emotional Influence in History," "Emotions in Politics," "Conclusion—Emotions and Values."

In the chapter on the physical basis of the emotions, the seat of emotion is placed, not in the brain, but in the autonomic nervous system. In other words, an emotionally stirred-up state must be registered in automatic bodily changes by means of the sympathetic nervous system in order to become conscious. He thus espouses the long-disproved James-Lange theory of emotion which reverses the order of events as conceived in practical life; that is, we see a bear, run, and *then* get frightened; we are frightened because we run, instead of running because we are frightened as common sense asserts. We confess to weariness with that kind of psychological fiction with which some writers seem to delight in shocking all human conviction by pretending to find scientifically something totally contradictory to anything ever before even imagined by mankind. Sherrington, Cannon, and many others have shown experimentally the untenability of the James-Lange theory of emotion, and so far as we are aware no well accredited neurologist at present supports it.

Explanation as to why people differ emotionally is likewise found in the physiological fact that they differ greatly in the ease with which impulses pass from the brain over the autonomic nerves to the internal organs. "The ease with which these discharges occur depends on the amount of resistance within the synapses found along the path of discharge." It is sufficient to state that this notional theory has no foundation whatever in fact; it is only a traditional hypothesis handed down and perpetuated for half a century without reason. Lashely, and many other of the leading neurologists, expressly state that there is no known function of the physiological synapse, that there is no resistance in it whatever, and Tiegs shows that there is no

synaptical connection in the sense of isolated neurons, but only synaptical connection of the neurofibrillae which ramify in different directions at these points.

The work has a good literary style and fluency and contains much interesting material. Special attention is given to such topics as, Why do we weep? Why do we love and hate? Why do we build large illusions about ourselves, the world we live in and the part we and others play in it?

GEORGE H. PAINTER,
New York State College.

Eugenic Sterilization in California.* A Statistical Study of the Patients of a Psychiatrist in Private Practice. By PAUL POPENOE.

It has been customary to base statistical studies of the insane upon patients admitted to or resident in State hospitals for the treatment of mental disease. Such patients, however, may differ in several respects from those who are treated by psychiatrists outside of hospitals, in the course of private practice. The author has analyzed the records of a group of 838 patients, treated, privately by a psychiatrist on the Pacific Coast during the years 1923-8.

The analysis disclosed, as might be expected, that these patients belong to a higher socio-economic class than do patients sterilized in California state hospitals for mental disease, and are rated even higher than the average of the state's population. The private patients are younger than the institutional population, and are well within the age limits favorable to marriage and reproduction. They have a high marriage rate, and a divorce rate which exceeds that of the general population. There is no tendency among the men of higher socio-economic status to marry at later ages, but those who do are as likely to have large families as those who marry early, pointing to the use of contraceptives, at least in the latter group. The number of living children in the completed family is three. The relation between size of family and socio-economic status is about the same as in normal groups. Dementia præcox patients have a diminished marriage rate, but those who do marry have a relatively high fecundity rate.

"It is concluded that the existence of a degree of mental disease serious enough to cause the individual to consult a psychiatrist has not tended to reduce the frequency of marriage or the size of family, as compared with the non-psychopathic population of similar age and socio-economic status."

MALZBERG.

* Reprinted from American Journal of Psychiatry, July, 1930.

The Socialization of Medicine. Compiled by EDITH M. PHELPS. Being Vol. 7, No. 1, of "The Reference Shelf," one of a series of publications, by the H. W. Wilson Company, New York City.

This volume consists of abstracts of articles from such men as Ray Lyman Wilbur and discussions on the affirmative side of the question by D. B. Armstrong and on the negative by Morris Fishbein and others.

The discussions relate to the resolution, "That State medicine should be established." Fourteen pages are devoted to a synopsis of the points for and against, following which we find a selected bibliography and finally reprints of articles which represent general affirmative and negative views.

A historical survey indicates that medicine has become highly specialized and tremendous progress has been made in new discoveries and methods of caring for the sick, but withal it has not been found possible to take these advantages to all the people. The great question then is, whether to permit the State to control the method of reaching the entire population, or to develop means to this end within the profession.

In the general discussion of the entire subject, Dr. W. S. Rankin, from a paper read at a general session of the American Health Association at Chicago, Ill., on "The Economics of Medical Service," presents some illuminating statistics on the cost of medical services, direct and indirect; others produce statistics on special divisions of medical and health problems.

One hundred pages are required to present the affirmative and negative opinions of a variety of writers. This little volume will be found a valuable fund of facts for any one desiring information on the direct subject, or for one who is interested in the trend of medicine, social and otherwise.

GRAY.

IN MEMORIAM

DOCTOR OREN HOWARD COBB

Dr. Oren Howard Cobb, who had been superintendent of the Syracuse State School for 18 years, died of heart disease at his home at the institution, January 23, 1931, at the age of 50.

Dr. Cobb was born at Cornwall-on-the-Hudson, April 27, 1880, and received his preparatory education at Riverview Military Academy at Poughkeepsie. From there he went to Harvard, where he obtained his A. B. degree in 1902. Four years later he received his M. D. degree from Johns Hopkins University in Baltimore.

Dr. Cobb practiced his profession in New York City three years and in 1909 he was appointed assistant superintendent of the New York State Reconstruction Home at West Haverstraw. He served there until April, 1912, when he was appointed superintendent of the Syracuse State School.

Dr. Cobb is survived by his wife, formerly Miss Lucy Scott McCrea, of Champlain, whom he married June 19, 1917; three children, McCrea Howard, Adela Bisbee and Bradford Cobb; and a sister, Miss Helen Cobb of Albany.

Dr. Cobb was a member of Syracuse Academy of Medicine, Onondaga County Medical Society and also belonged to the University Club of Syracuse, Harvard Clubs of Syracuse and New York City, American Psychiatric Association, American Association for the Study of the Feeble-minded and Uncas Lodge, F. & A. M.

The funeral services were held at the superintendent's home at the Syracuse State School, Sunday, January 25, and the burial was in Woodlawn Cemetery, New York City, on the following day.

At a memorial service in honor of Dr. Cobb held at the Quarterly Conference of the Department in Albany on March 19, 1931, the following fitting tributes to his memory were presented:

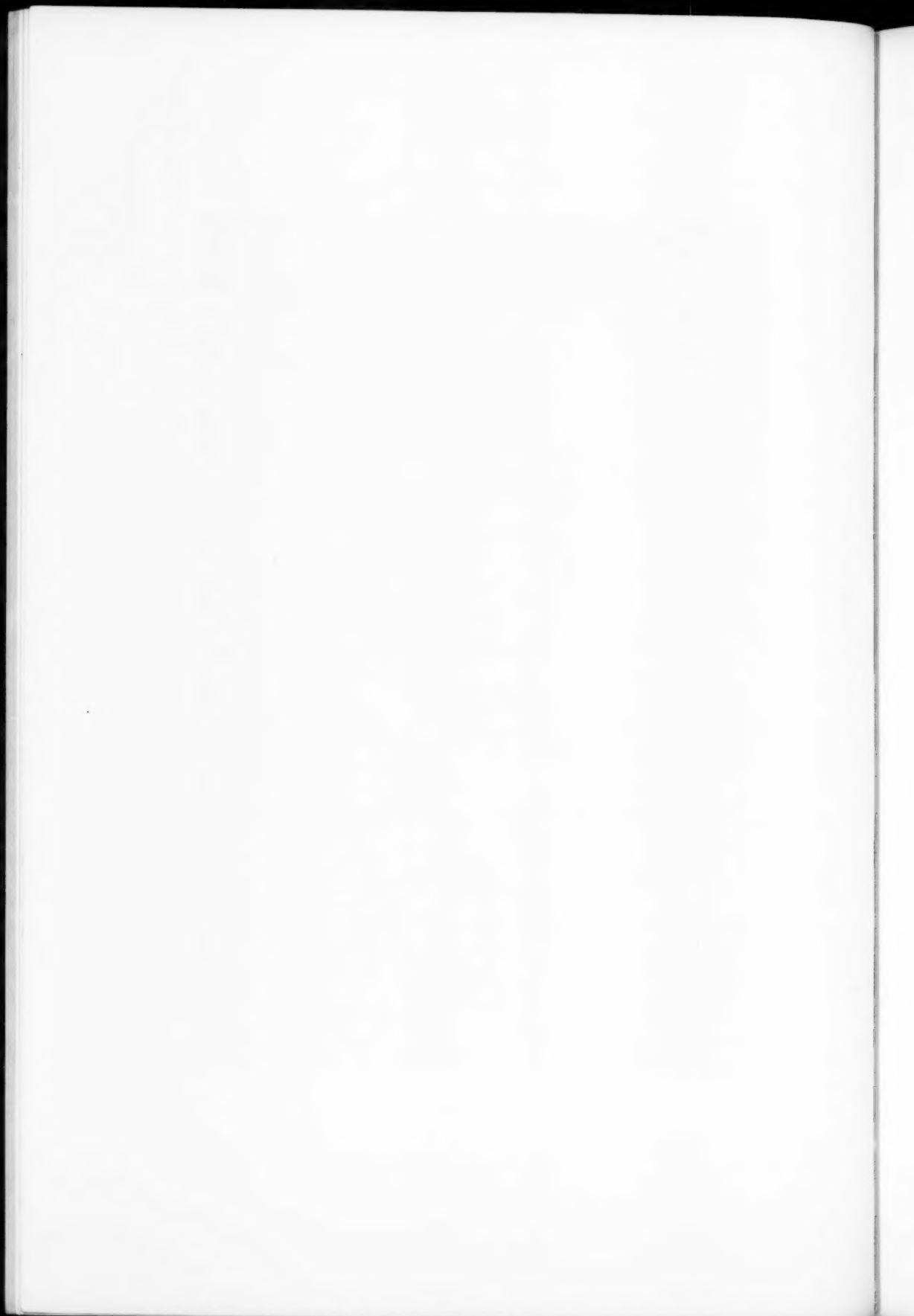
TRIBUTE BY DR. SANGER BROWN, II

It is a privilege to be given the opportunity to pay tribute to Dr. Cobb.

It is difficult to think of the Syracuse State School without him. He had been superintendent there nearly twenty years. He knew



DR. OREN HOWARD COBB
(1880-1931)



every part of the institution and all of the children in it. Many of the brighter children were at his own home at one time or another to do some work, to attend a party, or for other reasons. To these children the institution was more like an annex to Dr. Cobb's own home than otherwise, as the school seemed to them a part of the doctor's own household.

Dr. Cobb's father was headmaster of a well-known boy's school in Cornwall-on-Hudson, and during his later years he spent much of his time at Syracuse. Dr. Cobb's parents moved to Yonkers when he was young and he attended a military academy at Poughkeepsie before entering Harvard College. He graduated from Johns Hopkins Medical School in 1906.

Although the Syracuse State School is small, its administration is by no means a simple matter. This was not made easier during the past 20 years by the changes which took place in the general control of the State schools in Albany. For many years this institution, along with the other State schools, was visited and supervised by the State Board of Charities. Fiscal control during this time rested with the fiscal supervisor of charities. Then in 1918 the State Commission for Mental Defectives was given certain responsibility for the State schools. These functions were taken over by the Department of Mental Hygiene in 1928.

Dr. Cobb's problems in dealing with these different groups of persons, where authority was divided during the earlier period can well be understood. His good natured yet firm way of handling these situations indicated his tact and good judgment. To his credit likewise must be placed the fact that the institution despite periods of scant legislative consideration, is in as good a state of repair as an institution of its age can reasonably be kept, and that the school has been run as a school indeed for the education and training of the higher grade type of mental defectives and not as a custodial institution.

Dr. Cobb early grasped the importance of colonies. He gradually extended them, first for boys and later for girls, so that at the time of his death there were 11 boys' colonies and 4 girls' colonies, affording accommodations for 444 children.

A visit to the school shows the individual care given the children. They are not only well but individually dressed and they are en-

tertained at parties and other amusements so indispensable for children. Parents in different parts of the State frequently have asked that their retarded children be sent to Syracuse State School. The colonies and parole system apply the best that is known at the present time in caring for this type of child. The initiating of these activities, as already stated, can be credited to no one but to the superintendent.

Regret at the passing of life, practically at its middle period must always remain. But it is a comfort to know that that life has been spent to useful purpose in the service of mankind. Dr. Cobb's work in his special field will not be forgotten. One likes to recall evenings at his home, just adjacent to the school, after the day's work was done. These evenings were very pleasant with Dr. and Mrs. Cobb and the family. The conversation was general and there was seldom shop talk. Occasionally one or two members of the Board dropped in for dinner or some friends from the city were invited in for the evening. Dr. Cobb could be serious without appearing so. His social grace, his hospitality, his genuine kindness, and last but not least, his fine sense of humor, will be remembered always by those who knew him.

TRIBUTE BY WILLIAM ALLAN DYER

It is easy to think of the fine qualities and wonderful attributes of one who has been suddenly taken from us.

It is not hard to remember kind deeds nor is it difficult to hold in affectionate love and esteem a dear friend who has passed on to the great beyond.

But it is difficult to put into adequate words those thoughts and memories;—and if, in responding to your kind invitation to speak at this memorial service in tribute to Dr. Oren Howard Cobb, I do so with a distinct feeling of inability to properly give expression to what is in my mind and heart,—you will, I feel sure, from your own full hearts, supply my lack.

The desire, the purpose, the love, the esteem, the admiration, are all present,—only the tongue is weak.

Before an audience less sympathetic than this, I should feel less willing to give utterance to those feelings of affection and regard,

which are in the minds of all of us toward Dr. Cobb. Men do not readily express their emotions—and I confess to that fault.

But we were all his friends. He loved us all. He loved these meetings. He found joy, companionship and encouragement in your friendly association with him in a common task.

I am, therefore, encouraged to proceed, and to thank you, Dr. Parsons, for the privilege you have given me—and the honor you have done all our Board—in inviting me here; and not the less, for the kind forbearance I shall have from you all in my inadequate efforts to speak worthily of him.

* * *

I shall not feel it my part to speak of Dr. Cobb's attainments professionally. His abilities as an honored member of his profession are known to you, and many of you, his associates—in this room—who knew him in that respect, and of his pre-eminent work for the State and humanity, longer than I, can more fully tell of it. It should be told. Anyone who has served the State as a superintendent of one of these great institutions—or who has been on one of its boards, well realizes that half is never known of the self-sacrificing devotion, the talent and the interest given in the service, by the one on whom the responsibility is placed.

* * *

This work of salvaging human life consists not simply of having high ideas. There is the knowledge how. There is the life devoted to study. There is the time given without stint, at all hours. There is the sympathetic heart. There is the illimitable patience that must be shown at all times and under all conditions. There is the sacrifice of many personal ambitions. There is the submergence of self in the greater work for the many and for the State.

There is, in a great system, such as has grown up in our State and in like commonwealths, the dragging atmosphere of necessary rules and regulations. There is, at times, the aloofness from desirable social contacts. All these things, and many others like them, are to be met in a life devoted to mass helpfulness.

That Dr. Cobb met these conditions happily, and did his job devotedly and smilingly, is a matter for profound admiration. He never became a cynic. He never weakened under the task.

I wish to record here, as a citizen of our State, not simply as a member of one of its boards, my deep appreciation of all he did, and of the lasting good he brought to many whose names will never be known to us.

And what I say of Dr. Cobb in this respect, I would deeply wish you to consider as said of all of you who hold or have held like positions.

• • •

But my purpose is not to speak of him from the standpoint of his profession but of him as Dr. Howard Cobb, the head of our Syracuse State School, as your associate and as our friend.

• • •

It was in 1912 that he came from the Institution for Crippled Children at West Haverstraw to the Syracuse State School.

This school, in its then 60 years of existence, had had but two superintendents. Its Board of Managers, responsible under the then existing conditions, for the selection of a new superintendent to succeed Dr. J. C. Carson, hesitated at Dr. Cobb's age—, he being only 32 years old.

He used to tell, with some humor and evident enjoyment, how the children at West Haverstraw vied with each other in getting the institution in apple pie order, so as to do credit to him, and make a good impression on the visitors.

The Board considered carefully, but concluded unanimously, that a young man might bring some new methods and virility to the Syracuse School.

He came to the school—first taking a two months' course in special training and work at his alma mater, Harvard, to better equip himself.

• • •

The Binet-Simon intelligence tests had been introduced into the United States by Dr. Goddard of Vineland, New Jersey. They appealed to Dr. Cobb as a scientific method of grading the children. He sent his secretary to Vineland for a course under Dr. Goddard, and began the first mental testing of our children at Syracuse. Later, it was possible to go further with this and similar advanced methods, which he was always alert to adopt.

One of his aims when he assumed the leadership of the institution was to put the food requirements on a scientific basis. With this end in view, he created the position of dietitian. He was fortunate in the choice of his assistant to fill this position, and with her worked early and late to accomplish his purpose, always emphasizing and insisting that a sufficient allotment be made for the children.

He went through the food estimates item by item, adding new ones,—increasing or decreasing the old,—and finally to prove the results, worked out each item calorically, to find to his satisfaction and that of his aide, that it properly answered the needs.

To meet this and other innovations, distribution and requisition systems were changed and improved.

Then a canning factory was built. From a product at this small beginning, of 600 to 700 gallons per season, it has now reached 10,000 gallons. The farm was enlarged, and the food supply consequently bettered, increased, and varied.

* * *

After the food requirements were adjusted, Dr. Cobb devoted his attention to improving the industrial departments. Electric machines replaced the old foot-power ones, in dressmaking and tailor shops and elsewhere. The stock system was introduced and the departments placed on a business basis.

He instituted staff meetings weekly, where the teachers and other officers discussed the possibilities of each child, and disciplinary problems. Detailed histories of all the children were compiled, and items of interest added from time to time. These records were invaluable in conducting correspondence with parents, and as a guide to those having the supervision of the children in school and classrooms.

Three main lines of training were formulated: the grades, manual training and physical education. Music was emphasized as never before. The band established was supplemented by the orchestra, and vocal instruction.

On the theory that the happy child is the tractable child, all forms of wholesome amusement were provided and encouraged—dances, picnics, summer camps, the circus, the State Fair, sleigh-rides, etc., etc. Preparations for the Christmas holidays assumed

larger proportions, and the superintendent's presence at all of the varied entertainments covering a period of 10 days, added to the season's enjoyment.

The school took on new life and vigor, under his management.

If I refer to these things somewhat in detail, it is to refresh our memory, that many of these things which are axiomatic or common now, were not then adopted, and it was the initiative of this forward-thinking and present-acting man which brought them about at Syracuse.

When he came to the school, it had about 500 children and one colony. When he left us, it had 1,400 children and 15 colonies, with others planned in his desires.

* * *

He administered the school in such a manner as to command the respect and esteem of its officers and employees, and the support and complete admiration of its Board.

He was kind as a superintendent and sympathetic—especially to those in sickness or distress—but, always tempering his acts with justice and mercy, he was a strict disciplinarian to those who disobeyed the State's rules, and handled without gloves those who preyed upon the unfortunate wards of our school.

He accomplished much. Before I personally knew him, I learned of him as an outstanding authority on the training, education and rehabilitation of retarded children.

At all times he made special effort to listen to the cares and troubles of the children placed in his charge, giving them fair and just consideration.

He planned their entertainments, parties, and recreative diversions, and was always happy when he could bring about something for their pleasure and welfare.

Something of the love he had for his own home, his wife and his children, went out from them to the children of the institution—and made him willingly though unconsciously, give of his best to make a comfortable and pleasant home for them.

* * *

He came with a wholesome ambition—a rare power of making friends and holding them,—and a faith, which might almost be

called religious, in his work and in the possibilities of such a State school—and flowing from this, a belief that a man could do no better, no nobler work than to serve such an institution.

These were the elements of his character that drew him irresistibly into his work for the State.

He had from the beginning a remarkable equipment. A manner of personal grace and charm,—the power to analyze facts,—a love of reading and research,—a memory which held what he read,—an ability to absorb himself in his work, and draw the very best from his associates. He made himself one of them—in heart and feeling, in aspiration and hope, he was one of them,—and he had the divine gift of sympathy.

By patience, by sheer reasonableness, he improved the understanding of his associates in the school's management, and of his Board in the ultimate purposes of the institution's work.

As Frederick Douglass once said of Lincoln, they "felt they were in the presence of a big brother,—and there was safety and inspiration in his atmosphere."

* * *

It is no small matter to try to actually change individuals, and mold them into personalities more apt for human enterprise. It requires faith in the highest degree, courage and patience to the nth power to believe you can interest, arouse, build up habits of favorable response, teach minds feeble in strength and weak in initiative, to believe in themselves, learn to adjust and control their passions, and become useful to themselves, and helpful to others—, but he proved in these 19 years of devoted spending of himself, that it could be done—and was worth the doing.

And he found his highest reward,—during his long and final illness,—in the many spontaneous and voluntary acknowledgments he received from his former students—for he liked to call them such, and from the children then in the school.

A remark by one of the girls, at the time of his illness, illustrates very forcibly the feeling all his patients had for him. She said, "I do hope nothing happens to Dr. Cobb. He is the only father I ever knew."

His one final aim for the school was that the children of the school should be educated and trained to return as self-supporting

and self-respecting members of society, to their various communities.

To this end he gave all his vigorous energy, and his constant, devoted, and loyal effort. He laid out a broad program of training and rotation of employment and with the hearty cooperation of the various school departments, successfully carried it out.

With his well known and usual conservatism, he started the parole work cautiously but steadily, and with a singleness of purpose, doggedly built up a system unrivaled in accomplishment, and a model for others to follow.

• • •

After the parole work was established, he gave his attention to the further development of the colony work for the boys and girls, with such application and success that there are in Syracuse now four well and attractively furnished homes—and they are *homes*—where a hundred girls live happy, constructive lives (they go out to daily work in the city homes) and become a source of helpful service in the community, and finally, when well orientated, go out “on their own,” rehabilitated, and useful members of society.

His interest in the 11 boys’ colonies, established about Fairmount, opened up to those who passed through them,—and whose parents, many of them, had hitherto believed that they were condemned to life-long incarceration in an institution—a new picture of what they might be. Here, having previously in the main school learned what they could and been carefully habit-trained, they were grouped in small houses, to again get the family atmosphere,—and sent out, as in the case of the girls, to daily work; and when ready, as eventually most of them were, passed back, better equipped, or as well as could possibly be, for the battle of life; and they went to it with courage—a quality formerly lacking,—and with a respect for themselves and the laws of the land.

I wonder if we realize the economic and social value of such a process. It is almost beyond our comprehension. But that is another matter.

• • •

This was his aim. And to this, singly and straightly, he held his mind, and compelled by his singleness of purpose, the respect

and devoted aid of every member of his Board and of every one of his associated staff.

It always seemed to us, the members of the Board of Visitors, that his method was "Come, let's join together in this great work." And he won from us all an interest that many times induced us to lay aside other things to help the school and the State Department in this altruistic but very practical work.

One of the most unassuming of men, he had the rare quality of always giving credit to those he employed or who were associated with him. He rarely spoke in these Quarterly meetings, but I will venture the statement that few of you, his loved associates, got more from them than he.

* * *

One of his greatest pleasures—and one he showed his Board how to equally enjoy—was found in the visits he and we made to the other institutions.

He was so fair about it. Each one was a place where there was something to learn,—either for the immediate benefit of the school, or for the education of his own Board—for it seemed his interested wish for them that they might know all he could get them to know, not only to enjoy the knowledge, but that through it, they might be a greater help to the institution to which they were attached.

He made us know you, gentlemen, who are in charge of the various schools and hospitals, happily and most favorably. Never have I heard him speak a word except in highest praise of one of his fellow superintendents and associates.

And when, as it often times happened, we enjoyed the hospitality of your homes, and perhaps at table or in the quiet evening he relaxed, his quiet humor and good sense taught us all a new and very sweet side of Howard Cobb, the man.

Our visits were, of course, more frequent at the other three schools, and we members of his Board here acknowledge the pleasure and profit he gave us in the visits we occasionally made with the late Dr. Nevin at Newark; Dr. Bernstein, at Rome; and with Dr. Little and his family at Letchworth; but you are all in our minds most happily, through the visits made under his friendly guidance.

If he ever cared to analyze his attitude toward the world and people, Dr. Cobb would have said in Terence's words: "*Homo sum; humani nihil a me alienum puto.*" "I am a man: I deem nothing that relates to man a matter alien to myself."

If you split the word *homo* into its adjectives you will have two characteristics as used in modern English, "human" and "humane." These two attributes give a full picture of Dr. Cobb.

He was "human." He thought of himself as human; i. e., as having the common sympathies, passions and failings of men. He was not the kind of a superintendent who thought of himself as a man in power. His modest thought of himself as "human" brought into being the other side of the *homo*, the attribute "humane."

Having the feelings and inclinations creditable to man, he showed and evidenced in his whole life a disposition to treat others with sympathy, compassion and kindness.

He felt that the stubborn will of a human being could not be regulated always and everywhere by enforced rules and regulations; that often, the promulgation of a rule arouses the desire to break it, that too many rules and regulations engender hypocrisy, discontent, and hatred.

He believed that human behavior was an outgrowth of the internal forces of our nature, that when you got the fundamentals, too many detailed rules regulating human behavior were not necessary.

He cultivated and brought out with rare skill, these essentials in every one with whom he came in contact.

He created in the man or woman who worked with him or under him the spirit of loyalty, devotion and conscientiousness, and as one of his associates said, "As an executive he was more fortunate than any man I know in associating with himself, people possessing those qualities."

He was human. He was humane.

* * *

Let me sum up. Dr. Cobb was a modest man, content with the simple things of life, many times foregoing luxuries in order that better facilities could be provided for the education and training of children.

He loved his home, his wife and his children, and as a corollary, extended that love and interest to the children of the institution in his charge.

Essentially a modest man, he was democratic in spirit and vitally interested in the children and employees of the school. Highly sensitive, he deeply prized a kind act done to those he loved. I never knew a man more touched by any evidence of kindness to him or his.

A great student, he was a man of wide reading, choice diction, and possessed an unusually extensive vocabulary. He gave credit for these assets to his father, who early established in him habits of language study, and insisted on his looking up every word new to him to get its peculiar meaning or shading.

All during his term of administration, Dr. Cobb gave his backing to those who worked under him. This assurance made it easy for them to carry on, during his periods of absence. Any suggestion likely to promote the welfare of the children was eagerly accepted by him and put into action.

The welfare and happiness of those whose lives were entrusted to his care was his ever constant thought. He was "on duty" all hours of the day and night, and many times rose from his bed at night to assist in locating some disgruntled boy or girl or to bring a cheerful message or help to an associate.

Dr. Cobb was a true democrat, in the full meaning of the word. We, who had the privilege of his friendship and who worked with him shall long remember him as a man of the highest qualities.

* * *

Are these my words? Perhaps! They are the composite words and thoughts of those who knew him best, those who worked with him during the long years.

They are my own thoughts and they are the deliberate judgment, inadequately expressed, of his Board of Visitors who feel a very deep sense of personal loss, impossible to properly appraise, in his passing. I believe they are your own estimate of your fellow associate in the State's service.

May I paraphrase a bit of that beautiful verse of Boker's.

"I knew the man! I see him, as he stands
With gifts of mercy in his outstretched hands
A kindly light within his gentle eyes
Extending hope, in which his heart grew wise
His mind attentive, and his willing ear
Divinely patient, right and wrong to hear"

* * *

What of the future of this work in which we are all engaged, and to which our dear friend devoted and you are devoting your lives?

Much has been done by our Commonwealth, the State of New York, to ease the burden and better the conditions surrounding the unfortunates committed to our care.

Great progress has been made in enlightened effort and better understanding.

Far greater results are to come. Much research is ahead of us. Preventive possibilities are round the corner for us to discover and apply.

The foundations have been well laid, and we are proud that our State has been and continues to be a pioneer and a leader.

Shall we not go forward in full faith, believing that the influences and results that shall emanate from the foundations laid by the thinkers of the past, and the scientific and devoted work of the leaders of the present, cannot be bounded.

May we, by searching study, practical effort, and continued consultation in this and other conferences, contribute our full share.

“Out of a good source evil cannot flow.

Out of the light darkness cannot be born.”

That, I think, would be the message of Howard Cobb, your associate, and my friend,—our friend.

• • •

I am very grateful to you for so patiently listening to me. I express the hope, that these same pleasant relations which Dr. Cobb so enjoyed, delighted in, and prized—and encouraged his Board also to enjoy—may long continue, to the advancement of the good of those unfortunate wards of our State, to whom he gave his hopes, his efforts, and the best years of his life.

To his family,—his loved ones,—his dear wife and helpmate, to his children to whom he gave a father's care and fondness, and to his beloved sister, we send our deepest sympathy, and our warm and abiding affection.

TRIBUTE BY DR. CHARLES S. LITTLE

It is about 21 years now since I first came in contact with Dr. Cobb, and that by the way of a letter. At that time I was superintendent of a small institution in New Hampshire, but had been appointed superintendent of a new institution which was to be erected in the town of Haverstraw, New York, and known as Letchworth Village. Dr. Cobb was a young assistant in the school for crippled children, located in the town of Haverstraw. I received a letter from him saying that he understood I was going to be a neighbor of his and that if there was anything he could do to help me get started he would be very glad to do it. That, I think, was characteristic of him all through his life—his quiet reserve and sympathetic, helpful manner—he wanted to do something to help anyone he could. As far as I remember, he was the only person in New York State that wrote me at that time. Although he was a young assistant, he gave a helping hand to me when I came to the new institution.

I took to him at once because we both spoke the same language. Although he was born in New York State, he came of a long line of Maine ancestors and kept the old place in Maine until after his father's death. He spent much time there and we had many things in common which we understood, even if we did not talk about them. After I went to Haverstraw, he was there for a year or two, then was appointed superintendent of the Syracuse State School. To fit himself for the new work he was to undertake, he spent a considerable period of time with Dr. Fernald at Waverley, a leader in our work who was, I think, the finest executive with the most sympathetic understanding of the problems of the mental defective that I have ever known. After that kind of training, Dr. Cobb went to Syracuse, filled with enthusiasm, to make it the kind of an institution equal to the best of those in existence. He went to the oldest institution as far as buildings are concerned. The first building for the care of the feeble-minded in this country was erected in Syracuse. He went to this place which was very much run-down, out of order and needing all sorts of repairs. Anyone familiar with the institution at that time can see the tremendous improvements which he made in the time he was there. I saw the institution

before he went there and know the difference. I was there frequently while he was superintendent and while it still does not compare so favorably with our modern institutions, anyone who is familiar with the old and the new can remark "what a difference!"

His colonies were the best I have ever seen. His school at the time of his passing was second to none. I considered it one of the best of the State schools.

It has been wisely said that an institution is but the shadow of a man. I would add that the spirit of an institution is the institution. When you see an institution where the children, or patients, or whatever you call them, are happy, where employees are enthusiastic in their work and contented, that is a real institution, and that is what Syracuse seemed to be.

No tribute that I could pay him would be equal to the tribute which was paid to him in his own institution by the affection of his children and the loyalty of his employees.



SYRACUSE STATE PSYCHOPATHIC HOSPITAL

THE SYRACUSE STATE PSYCHOPATHIC HOSPITAL

BY HARRY A STECKEL, M. D., DIRECTOR

The Syracuse State Psychopathic Hospital, the first State institution of its kind in New York, was opened for formal admission of patients on December 26, 1930. Its first patient, admitted that afternoon, was referred by the judge of the children's court of Syracuse for observation. Owing to the delay in completing the painting of the walls and ceilings and through the consequent delay in getting the furniture and equipment in place, it was not planned to open the institution before January 1, 1931; but by virtue of the fact that the old Syracuse Psychopathic Hospital, operated on the budget of the City of Syracuse, closed its doors earlier than we had anticipated, it became necessary in order that we might serve the community to rush our preparations and to open the institution on the day after Christmas. At that time we were prepared to operate only on an emergency basis, having opened only two of the wards, and much of our equipment being still in transit.

In keeping with its name the institution will treat acute mental cases, examine cases referred for observation and diagnosis, care for more serious mental cases pending commitment, hold clinics for community cases, and give instruction to students of psychiatry.

We have up to date (March 17, 1931) admitted 100 cases of which 34 cases are still in the hospital; 2 patients have died, 26 have been regularly committed to State hospitals, 31 have gone home either much improved or recovered, and 7 have been returned to the custody of the local courts.

Gradually, we have expanded our activities so that now all of our six wards are open and operating, and although we still lack some furniture and considerable equipment owing to insufficient funds, we are in a position to care for the total number of patients for which beds have been provided, namely 60.

The hospital building has three floors and is in the shape of a "T"; the horizontal arm of the T representing the wards proper, one side for male and the other for female patients, and the vertical arm of the T being the administration center and the out-patient clinic department. The first

floor which provides 16 beds in single rooms and 8 beds in two small dormitories is being utilized for quiet and convalescent cases. The second floor which provides 16 beds, all in single rooms, is being used for the admission service—8 beds, of course, being available for men and 8 for women. On the third floor the more disturbed cases are lodged and this floor is provided with 7 single rooms and a 3-bed dormitory together with the necessary continuous baths, et cetera. A congregate dining room accommodating 24 patients on each side of the house is provided on the second floor with a serving kitchen conveniently located between them. In the basement are the kitchen, linen and clothing room, staff and employees' dining rooms, occupational therapy room, hydrotherapy and lecture rooms.

As indicated above, one floor of one wing of the hospital is set aside for out-patient work and it is hoped and believed this will prove to be one of the most profitable activities from the preventive standpoint. Extra-mural patients will have access to the same treatment facilities as will those suffering from the more profound disorders requiring hospitalization yet will need make no contact with these more severe types. If the need presents itself children as well as adults will be treated in the out-patient department. Social service personnel for follow-up work has also been provided.

On the whole, we feel that the hospital is well planned, the construction excellent, and adequate equipment and personnel have been provided to afford a high type of service in a variety of fields. The institution should lend itself admirably as an emergency detention and classification station for cases requiring eventual commitment to State hospitals for prolonged care and treatment. Although this is a much needed service, this work will really occupy only a minor position in the total program of the hospital.

An ample number of beds in suitably segregated portions of the building for the treatment over a considerable period of time of borderline and incipient cases of nervous and mental disorders is provided, and every facility in the way of occupational therapy, hydrotherapy and physiotherapy will eventually be afforded.

In addition to the treatment facilities which the hospital is able to offer, it will without doubt prove of educational value in many ways. Connected as it is, with the University Medical Center and

with the Medical College of Syracuse University for teaching purposes it will aid in the education and training of medical students and student nurses in psychiatry and will undoubtedly prepare many of them for careers as psychiatrists and psychiatric nurses. It is hoped that courses in mental hygiene and social psychiatry will eventually be included in other departments of the University.

Its educational value, of course, will not stop here. There is reason to believe that the hospital will function as a center from which will be carried to the general public information regarding the principles of mental hygiene so that its ultimate function will become pre-eminently a preventive rather than a curative one.

Laboratory facilities and personnel for extensive and intensive biochemical research have not been provided but it is reasonable to suppose that some clinical studies of selected types of cases with emphasis upon psychological and environmental factors may be undertaken from time to time. Located within a stone's throw of the University Hospital, the City Communicable Disease Hospital, and the new Memorial Hospital (all a part of the new Medical Center) consultants in all fields of medicine and surgery are available.

The Syracuse State Psychopathic Hospital is prepared to render a much needed service to the community and with the help of an unusually progressive Mental Hygiene Committee, the activities of the institution will be utilized to good advantage and the success of the venture in this field is assured from the very beginning.

As the institution embodies a new State policy, the story of its inception and establishment is of special interest. In November, 1925, Dr. Weiskotten of the Syracuse University Medical College, attended a medical meeting in New York City at which the late Dr. Haviland, at that time chairman of the State Hospital Commission, read a paper outlining the plans for the Psychiatric Institute and Hospital in connection with Columbia-Presbyterian Medical Center in New York City. Dr. Weiskotten felt that a similar unit in connection with the proposed Medical Center in Syracuse would be of great value for many reasons and, therefore, took the matter up informally with Dr. Haviland after having discussed it with the Chancellor of Syracuse University. Dr. Haviland seemed to look favorably upon the possibilities for such a unit and in December, 1925, the Executive Committee of the Onondaga

Health Association Mental Hygiene Committee went on record as favoring the establishment of a regional State Psychiatric Hospital in Syracuse in connection with the Syracuse University Medical Center and immediately took steps to secure such an institution. The time seemed particularly auspicious as the last quarter of the \$50,000,000 bond issue was about to be allocated and Syracuse University, developing a new Medical Center, would probably donate a suitable site. Furthermore, the need for a service of this type in Syracuse was especially urgent.

Syracuse is the only city of any considerable size in the State not having ready access in emergency cases to a State hospital for the insane, or to a psychopathic division of a general hospital. It is one of only three cities in the State that had attempted to meet its local needs by opening its own municipal psychopathic hospital. Such institution was recognized as being totally inadequate, having room for only four patients yet receiving nearly 300 patients each year. Patients could seldom be held more than a few days and therefore it could not hope to provide curative and preventive treatment. The four counties adjacent to Onondaga, namely, Cayuga, Cortland, Madison and Oswego, were equally in need of more adequate emergency service.

The committee's recommendations read in part as follows: "It is not practicable to depend upon the local committee or counties in this part of the State to set up and conduct the accommodations and expert services that are needed in order to discharge the several functions of the psychiatric hospital and to live up to present-day professional standards. What is needed is not several scattered hospitals, but one central place serving a considerable area . . . The only practical means of securing such an institution is through the establishment of a regional Psychiatric Hospital in Syracuse by the State." As the population to be served by this hospital is approximately 500,000, it was suggested that at least 60 beds be provided.

The matter was next discussed with the State Hospital Commission and the State Board of Estimate and Control with the result that by virtue of Chapter 346 of the Laws of 1926 the Syracuse State Psychopathic Hospital was established and \$300,000 for construction allocated.



WASSAIC STATE SCHOOL, CENTRAL KITCHEN AND DINING-ROOM BUILDING



WASSAIC STATE SCHOOL, TWO-STORY DORMITORY FOR 200 CHILDREN

WASSAIC STATE SCHOOL

BY HARRY C. STORRS, M. D., SUPERINTENDENT

The Wassaic State School, which was established by Chapter 44 of the Laws of 1926, March 4, 1926, was opened as a separate institution for mental defectives January 7, 1931. For some months previous to that time a small colony of working patients of Letchworth Village had been housed there.

During 1925, and for a few years previous, overcrowding in the institutions for the feeble-minded had become quite acute, and there was a steadily increasing demand for admission to the State schools. Especially were these demands increasing from the metropolitan district. To meet the situation it was deemed necessary to build a complete new institution, and the Commissioner for Mental Defectives with a committee began investigating sites. After several proposed sites had been investigated, two large farms in the Harlem Valley within the township of Amenia, just south of Wassaic Station, were selected and purchased in the spring of 1925. Afterwards, additional acreage from another farm was added to the original property.

The new institution, which is 80 miles from New York City, was intended to serve the metropolitan district primarily and also the counties east of the Hudson. Because of the restrictions due to the New York City water supply it was difficult to obtain a more accessible site.

The institution is served by the Harlem division of the New York Central Railway, the track running through the property for a distance of a third of a mile, giving good railway service and a spur track. The Harlem Valley runs north and south, and is for the most part quite narrow, occasionally widening to a breadth of two or three miles. At the site of the institution, the valley itself is quite wide, and on both the east and the west are hills with wooded tops, cultivated land running half-way up the slopes. In the center of this valley a ridge rises to an elevation of over 100 feet above the level of the Ten Mile River and Webatuck Creek, which join within the property; on this ridge the dormitories and main buildings of the institution have been constructed.

All of the buildings are of absolutely fireproof concrete construction. The finish is made to resemble adobe, and the general architecture is along Spanish lines, most of the roofs being flat. To avoid the flat appearance of the concrete, the plainness of the exterior walls has been broken, on the sides and front; and about the entrances has been placed some terra cotta ornamentation.

In the valley on the level with the railroad track, are located the utility buildings, power house, storehouse, bakery and two farm colony buildings for 50 working boys each. These colony buildings are separate units, not being connected with the power house for heat or domestic hot water.

There is also on the lower level a two-story dormitory for employees, known as a mechanics' home, which will be occupied primarily by men connected with the engineering department and probably also by any other men employed directly in the storehouse, garage, and other utility buildings. Near the stream is the disposal plant, which is a modified form of the Imhoff tank system.

The water supply is obtained from seven driven wells in a meadow to the north of the institution, where is located the pump house. The wells are about 180 feet deep and deliver an excellent water, except for its high degree of hardness. On the highest point of the ridge is a 300,000-gallon water tank, to which the water is pumped directly, and from this tank it flows by gravity to every part of the institution. Near the power house is another, 1,000,000-gallon, emergency tank with pumps in the power house ready for use in case of necessity.

The power house is a modern plant, equipped with four Fredericksen stokers which appear to be functioning quite satisfactorily. All the buildings except the two farm colonies are heated from this system. All domestic hot water is heated in the power house and delivered to the buildings, a separate line running to the laundry to insure a constant supply of hot water there. From the generators electricity is delivered as power to the electric pumps at the pump house and to the various motors operating elevators, laundry, ice machines, fans, as well as furnishing light to the whole institution.

A shop building near the power house is at present under con-

struction, and here eventually will be housed the electric, plumbing, steam fitting, carpentry, painting and blacksmith shops.

The laundry, a three-story building, is situated on a rise of ground about half-way in elevation between the buildings on the lower level and those in the main part of the institution.

The main part of the institution consists of two groups, male and female, each made up of six dormitories with a capacity of 200 each; and two so-called infirmary buildings for those of low mentality, with a capacity of about 100 each. Two more of these buildings are planned for each group. The six dormitories are placed three on each side of the group in line, facing three on the other side, the infirmary buildings being across the end of the group; and in back of these in a curve are four employees' homes. This makes roughly a double horseshoe-shaped arrangement of the buildings, with the open ends toward each other, and in this open end is the central kitchen and dining room building of each group. Between these two kitchen and dining room buildings it has been planned to locate the administration building.

The dormitories, each for 200 children, are in the shape of a square "U", two-story buildings containing four wards, day rooms, and water section units complete. On each side of the front, upstairs and down, are the day rooms. The wards extend back and are for 50 children each, while between the day rooms and the wards are the washrooms, linen closets, and a room for outer clothing near the side entrance. These side entrances will be used by the children rather than the main entrances in front. On the second floor between the day rooms is an office for the use of the doctor, psychologist, or any person conducting special examinations of the children.

The infirmary buildings are planned very much after the Letchworth infirmary. They are one-story, U-shaped, with a large concrete area between the two wings which will allow the children to be out of doors a great deal of the time.

The employees' buildings are the same as the mechanics' home, except that they are three-story and consist of 50 single rooms each.

The kitchen and dining-room building consists of one main kitchen in the center, and on one side the dining room for em-

ployees and opposite this on the other side cold storage and various utility rooms. On each end of the kitchen is a room equipped with dish-washing machinery and extending from each of these rooms are three dining-rooms for 200 children each, the plan being for the children of each dormitory to come to their own dining-room.

Between the two kitchens is planned a circle, at the rear of which would be the administration building, facing the main entrance of the institution. Behind the administration building is one five-story staff house, which has been completed, and two more are under construction. Between the staff houses and groups proper a site has been selected for the school buildings, one for the boys and one for the girls. These are very badly needed by the institution at present, as we have no assembly hall, school, or gymnasium and are therefore considerably handicapped in the entertainment of the children. No site has been selected for the hospital, which will soon be necessary.

The buildings under the original contract, which were recently completed, have a capacity for 2,300 children, and those at present under construction will add 600 more to this number; these should be available by the first of next year, making a capacity at that time of 2,900. Four infirmary buildings to hold 100 children each, which are located on the plans but have not been contracted for, will add 400 to our present capacity, making the ultimate capacity of the institution 3,300.

Admissions at present are being made almost entirely by transfer from the other overcrowded schools for mental defectives. We have at the present time 96 boys in the two colony buildings. Fifty girls have been admitted to one of the dormitories in the main part of the institution, and both boys and girls will be received from now on as fast as the buildings can be made available.

DEATH OF DR. PATTERSON

Dr. Harold Alexander Patterson, pathologist of the Manhattan State Hospital, died Tuesday, February 17, 1931, at his home on Ward's Island, of cerebral apoplexy and pneumonia. Funeral services were held on Ward's Island, New York City, on February 19, and interment services were in Forest Lawn Cemetery, Buffalo, New York, February 20.

He is survived by his wife, Laura Bennett Patterson.

Dr. Patterson was born on August 3, 1894, in Buffalo, New York, the son of Charles Patterson and Clara Mohr Patterson. He attended the public schools of Buffalo, and upon graduation he entered the Medical School of the University of Buffalo, from which he received the degree of M. D., in 1917. He was assistant at the Good Samaritan Free Dispensary, Buffalo, 1917-1918; assistant pathologist at Buffalo General Hospital; associate bacteriologist, Buffalo City Hospital, and instructor in bacteriology, University of Buffalo, School of Medicine, from 1917-1920; lecturer in serology, Chicago Hospital College of Medicine, 1918; bacteriologist and serologist, Base Hospital, Camp Shelby, Mississippi, 1918-1919; commanding officer, Laboratory of the Port of Embarkation, Newport News, Virginia, 1919; special lecturer on neuroanatomy, Geneseo State Normal School, 1920. He became resident pathologist at Craig Colony in 1920, and while there he published numerous articles, dealing principally with epilepsy. He was visiting pathologist, Dansville General Hospital; director of Livingston County Public Health Laboratory, 1928-1930. He was a major in the Medical Reserve Corps of the U. S. Army.

In July of 1930 he was transferred to the Manhattan State Hospital as pathologist.

He received an A. B. degree from the University of Rochester in 1926; and, in 1927, an A.M. degree from the same university. Work on a Ph. D. from the Department of Psychology of Columbia University was complete with the exception of the publication of his dissertation. He had done graduate work in the University of Michigan and Harvard University, and received special training at Rockefeller Institute and the Psychiatric Institute of New York City.

He was a member of the American Medical Association; New York State Medical Society; Medical Association of Central and Western New York; Livingston County Medical Society; Rochester Academy of Medicine; New York State Association of Public Health Laboratories; American Society for the Control of Cancer; American Medical Editors' and Authors' Association; Fellow, American Psychiatric Association; Fellow, American College of Physicians; Phi Rho Sigma; American Legion; Masons; The Neuron Club; and in 1930 he was elected to Sigma Xi of Columbia University.

In the death of Dr. Patterson the Department has lost one of its best medical officers. As can be seen from his education and training he had a wonderful preparation and a very broad experience background, and added to these he possessed an orderly, progressive mind which enabled him to apply his knowledge not only to his own specialty, but also made him an excellent teacher. As pathologist he possessed two characteristics which are not commonly combined. He was deeply interested in research work and during the short time that he was at the Manhattan State Hospital he had planned and outlined some investigations which he hoped would advance psychiatry; he also had keen insight into the clinical side of all medical problems. Because of this broader vision he was very helpful to the other physicians, often suggesting new lines of approach. Besides his fundamental interest in pathology and clinical medicines, he rapidly grasped the great importance of the routine methods of his work and carried that out with precision and dispatch. He cooperated with all other departments promptly and without friction. He radiated confidence and stimulated greater effort to delve into the deeper questions relating to diagnosis.

Dr. Patterson was a quiet, dynamic person who pushed on even when he knew that he was not strong and should retire. He did not retreat from responsibility, but met it squarely until the very end. Progress and loyalty to duty were his watchwords, and he lived out faithfully these two important concepts. Although he had only been with us a few months he had made many friends and we who were most closely associated with him feel very deeply the loss of a real scientist, a fine physician and a loyal friend.

I. J. F.

EIGHTH ANNUAL INSTITUTE OF CHIEF OCCUPATIONAL THERAPISTS

The Eighth Annual Institute of Chief Occupational Therapists of the State Department of Mental Hygiene was held in New York February 23 to 25, 1931. The headquarters were at the Psychiatric Institute and Hospital, 168th Street and Broadway, and most of the sessions were held there.

Mrs. Eleanor C. Slagle, director of the bureau of occupational therapy, presided at the various sessions.

For the benefit of those who were attending the Institute for the first time, it was deemed proper to state the purpose of the Annual Institute as follows:

"The purpose of the Institute is to promote cooperation and to broaden the mutual, common interests of those engaged in the activities of the departments of occupations and occupational therapy in the hospitals, schools, the colony for epileptics and other institutions of the State Department of Mental Hygiene; as well as to foster friendly understanding with other divisions of State service.

Dr. Sanger Brown, II, in his opening remarks, pointed out the necessity of being on the alert constantly for new concepts of occupational treatment, new methods of approach in order to develop the progressive, evolutionary phases of this newer form of treatment. His vision for occupational therapy is that, ultimately, it may lead to "some training which would make some patients better wage earners or fit them to be more self-supporting" on leaving the hospital. He called attention to the desirability of the scientific prescription of occupational therapy and also to the possibility of a physician in each hospital being definitely assigned to look after patients receiving the benefit of the occupational treatment program and to assist those engaged in carrying out this phase of modern hospital treatment.

Dr. Leo J. Palmer, of Bedford Reformatory, in his address established an immediate friendly relationship by the statement that "While I am not trained in occupational therapy, I do feel that I can lay claim to be one of you." He summarized the therapeutic work being done at the New York State Reformatory for Women, at least that part known specifically as occupational therapy, as

follows: "We are so thoroughly satisfied with its value to the institution that we now have on our staff one chief occupational therapist and *three* full-time occupational therapists. At present there is under construction a new building which we will call a therapy unit. One end of the building is to be designated as the studio and many of the ideas have been acquired from beautiful buildings at Bloomingdale."

It was interesting to learn that Dr. Palmer has not found "expensive trade training set-ups of any great value, due to the fact that, among the girls and women received at the Reformatory, there is "too great a variety of combination of aptitudes and tastes to fit into the few specialized trade training projects permitted in an institutional community." Dr. Palmer stated further that "habituating the individual in habits of work and regularity is the basis of his or her most adequate socialization."

Perhaps the most important statement of this able address was to the effect that Bedford Reformatory was the first institution of its kind to adopt occupational therapy on a strictly therapeutic basis ("as you use it") for the treatment of problem inmates; "If something of a similar nature could have been employed when the patient began to show the very first indication of economic instability, the ultimate asocial conduct might have been averted."

Following the address of Dr. Palmer, Dr. Robert Plunkett, director of the Division of Tuberculosis, State Department of Health, made a very significant contribution to the general knowledge of "Modern Methods of Treatment of Tuberculosis." He outlined three important elements of treatment and referred to occupational therapy as one of the medical arts "which may well be applied in establishing a basis of tolerance of the patients in order more correctly to guide them in their cure."

This paper is to be published in full; hence the brevity of the report.

Dr. Isaac J. Furman, superintendent of Manhattan State Hospital, discussing Dr. Plunkett's paper from the standpoint of the relationship of psychosis to tuberculous patients, predicted the coming of a new era of combined medical-psychiatric treatment, which is now being rapidly integrated. In a short time the patients in all of the hospitals and other institutions in the State Depart-

ment of Mental Hygiene may benefit by newer conceptions, newer practices and, best of all, by new buildings constructed for the purpose of adequately caring for the mentally-physically ill for whom the department is responsible.

Dr. Horatio M. Pollock, director of the statistical bureau, supplied tables giving current data relative to the number of psychiatric tuberculous cases in the State hospitals, State schools and Craig Colony. Copies of these tables were supplied to the members of the Institute, also copies of a program of occupational treatment which had been very carefully prepared by Miss Mary E. Shanklin, assistant director of the bureau of occupational therapy.

Through the courtesy of Mr. Leon Schwartz, of the State Department of Architecture, it was possible to show a large drawing of the new tuberculosis unit at Ogdensburg, with its special features for the scientific care of patients.

Dr. Leland E. Hinsie rounded out the contributions to the program by State officials by his enlightening comments on the manifold problems that arise in the treatment of schizophrenia. "Occupational therapy, in psychiatric disorders," he stated, "aims to participate in the rehabilitation of the total personality."

Dr. Hinsie dwelt at considerable length upon the desirability of attempting to develop "wholesome emotional growth" with the schizophrenic patient and said that "There is no place more instrumental in initiating such a healthy contact than the quarters in which occupational therapists carry out their activities." Dr. Hinsie referred to the occupational therapist as a socializing agent, one whose principal interest, insofar as schizophrenia is concerned, is the development of a social individual. Occupation in itself subserves this aim. The program of socialization is continued by the psychiatric social worker, who had already established contacts with the patient when he or she first entered the hospital. Occupational therapy "accomplishes through the medium of work and play, but more particularly through the influence of the personalities that enter into the life of the individual under treatment."

The members of the Institute were urged to make the recent book of Dr. Hinsie, "The Treatment of Schizophrenia," available for study for all of those engaged in the various occupational therapy departments of the hospitals of the State service.

Dr. Phillip J. Trentzsch, whose advanced ideas on the subject of occupational treatment as a therapeutic approach in child guidance are well known, presented a sympathetic picture of the "fundamental characteristics of the child" and of the desirability of observing closely, through occupations, the stages of habit formation, the individual reaction, etc., etc.

The sessions of the Institute demonstrated the kinship of the problems which are dealt with in State service and the close team work which exists between the various State departments.

The second session was opened by a brief but very interesting description of the "Traveling Exhibit of the American Occupational Therapy Association," by Dr. William Rush Dunton, II, of Harlem Lodge, Catonsville, Maryland, who had attended all but one of the previous Institutes. He spoke not only on the subject assigned him but also of the value of the "Institute." Dr. Dunton and Miss Winifred Shaffer collaborated in a plan for the "Reorganization of the Exhibit," which was described and illustrated most adequately by Miss Shaffer.

The demonstration of practical handwork problems by the representatives of the hospitals and institutions of the Department was of much interest. While each demonstration was of value, those created the greatest discussion were: 1. The small pieces of pottery made at Kings Park from clay dug on the hospital grounds and which was used on an experimental basis with good results as to project and greater results as to the value of uncovering available resources of State property. 2. The very beautiful exhibit of transparent tapestries, the processes of which were so adequately described by Miss Inez Wenz, occupational therapist of Manhattan State Hospital. Several hangings of this type of weaving were exhibited by Manhattan State Hospital as well as one very lovely piece by the State Psychiatric Institute and Hospital.

The detailed description of the Christmas pageant at Brooklyn State Hospital, with detailed directions for making the animals' heads used in the pageant, by Nester Stickler, a patient, was one of the outstanding demonstrations of social cooperation in a production for the pleasure of all patients in the hospital.

The first session of the second day brought to the members an opportunity to hear Mrs. Lillian Barton-Wilson on the gen-

eral subject of needlework, with blackboard illustrations of stitchery, different types of canvas, etc., etc. The speaker brought many rare pieces of needlework, from the simplest types of darning to the most exquisite tapestries, as well as pieces of gros point, petit point, and crewel work; also types and examples of early American needlework.

The afternoon session was held at the Museum of the American Indian, Heye Foundation, where a tour and gallery talk was arranged exclusively for the members of the Institute, under the inspirational leadership of Louis Schellbach, of the museum staff. Again it was demonstrated to the members of the Institute the large part that museums play in the educational pursuits of the day.

The morning session of the third day was given over to a conference with the therapists and an intimate study of weaving drafts, colors, materials, etc. Each hospital exhibited weaving projects accompanied by drafts of the article, which served to make available the circulation of drafts of unusual threading, treadling, design and color.

The members of the State Occupational Therapy Association were invited to meet in conjunction with the Institute for the last session and expressed appreciation of the opportunity of hearing the address of Dr. George K. Pratt, of the National Committee for Mental Hygiene, on "The Present Mental Hygiene Movement." He showed the evolution of the mental hygiene movement from the early work of organized effort, which was concerned with the betterment of care and treatment for those suffering from mental disease, down to the present day when the weight of the work of organized mental health work is concerned with prevention in which "the cooperation and enlightened effort of every member of the community is needed."

At the conclusion of the meeting, members and guests enjoyed an informal hour and a charming tea, which was served in the nurses' quarters.

Without a dissenting voice, the Institute was adjudged the most educational, from all points of view, that the chief occupational therapists have been privileged to hold.

ELEANOR C. SLAGLE.

MARCY DIVISION TO BECOME A STATE HOSPITAL

The Marcy Division of the Utica State Hospital will become on July 1, 1931, a separate institution to be known as the Marcy State Hospital in accordance with the provisions of Chapter 106 of the Laws of 1931.

The Marcy State Hospital serves as a link between the period in the State's history when the modern policy in the treatment of the insane was adopted and the more recent period when in a business-like manner, the State proceeded with the program now being carried out for new State hospital construction and reconstruction.

The site in the town of Marcy for an addition to the Utica State Hospital was selected by the State Hospital Commission about two decades ago. At that time, as the growth of the city of Utica indicated that the farm lands near the hospital buildings would be required for building sites and streets, the State authorities decided to take steps toward the removal of the institution to the country. Five sites near Utica were inspected by the Commission and the site at Marcy was finally decided upon because the Commission believed that it combined to a marked degree all the features necessary for an ideal hospital location.

In 1917, the Legislature created the Hospital Development Commission by Chapter 238 of the Laws of that year and made an appropriation for the construction and equipment of new buildings on the site, the new institution to be known as the Utica State Hospital, Marcy Division. On September 13, 1919, the Marcy Division was formally inaugurated by the then Governor Alfred E. Smith, who turned over the first spadeful of earth, and who throughout his eight years as the State's chief executive, was an earnest advocate of State hospital development.

On December 4, 1922, the Marcy Division received its first patients by transfer from the Utica Division and by January 10, 1923, 100 men and 100 women were being cared for in the new institution.

On March 1, 1931, the number of patients under treatment at Marcy had reached 1,949. When completed the hospital will accommodate more than 3,000.



CHAS. E. ROWE, M. D.

DR. ROWE APPOINTED HEAD OF SYRACUSE STATE SCHOOL

Dr. Charles E. Rowe, first assistant physician of Hudson River State Hospital, was appointed by Commissioner Parsons superintendent of Syracuse State School, April 1, 1931. Dr. Rowe succeeds Dr. Oren Howard Cobb, who died January 23, 1931.

Dr. Rowe was born at McGraw, Cortland County, New York, March 5, 1889. He attended the public schools of his native village and graduated from its high school in 1905. He attended the Cortland State Normal School from 1905 to 1909, and then entered Syracuse University. He received the degree of Bachelor of Arts from the latter institution in 1913 and the degree of Doctor of Medicine in 1916. While in college he was a member of Alpha Chi Rho, an academic fraternity, and Alpha Kappa Kappa, a medical fraternity.

Dr. Rowe's service in the State hospital system began with his appointment as medical interne at Rochester State Hospital, July 7, 1916. He was transferred to the Binghamton State Hospital, April 1, 1917; and was promoted to assistant physician, October 1, 1917; and to senior assistant physician July 1, 1920. In the latter year he took a seven weeks' course at the Psychiatric Institute in New York City. He was appointed first assistant physician at Hudson River State Hospital, April 1, 1924. During the first three years of his service in that hospital he served as director of clinical psychiatry and since October, 1927, as an executive first assistant.

Dr. Rowe has had extensive experience in clinic work, having been in charge of the mental hygiene clinic of the Binghamton State Hospital at Binghamton from 1920 to 1924 and of the Poughkeepsie Mental Hygiene Clinic of the Hudson River State Hospital from April, 1924, to October, 1927.

He is a Fellow of the American Psychiatric Association.

Papers contributed by Dr. Rowe to medical journals include the following: "A Comparative Study of Personality Traits of Early and Late Dementia Præcox." "Personality in Its Relation to Prognosis in Dementia Præcox." "Luminal Sodium in Treatment of Epileptics with Psychosis," in collaboration with Dr. Wirt C. Groom.

DR. VAUX BECOMES SUPERINTENDENT OF NEWARK STATE SCHOOL

Dr. Charles L. Vaux, first assistant physician of Central Islip State Hospital, was appointed by Commissioner Parsons superintendent of Newark State School, February 1, 1931. He succeeds Dr. Harry A. Steckel, who had been appointed director of the State Psychopathic Hospital at Syracuse.

Dr. Vaux was born in the city of Buffalo, October 6, 1880. He graduated from the Buffalo Central High School in 1898 and from the School of Medicine of the University of Buffalo in 1902. Following graduation he served as interne in hospitals in Buffalo for about 18 months. He was appointed junior physician in Central Islip State Hospital, January 8, 1904; and was promoted to assistant physician, June 1, 1906; to second assistant, February 1, 1911; to senior assistant, July 1, 1912; and to first assistant physician, July 21, 1924. He took special courses in psychiatry at the Psychiatric Institute in New York in 1909, and in 1921.

During the war Dr. Vaux served as captain in the Neuro-Psychiatric Division of the Army at Camp Wheeler, Ga., and Plattsburg, N. Y., and with the 40th Division in France.

He has contributed papers on drug psychoses, salvarsan therapy in State hospitals and occupational therapy.

He is a member of the following societies: New York Psychiatric Society, Long Island Psychiatric Society, Suffolk County Medical Society, South Side Clinical Society, American Occupational Therapy Association and American Psychiatric Association.



CHARLES L. VAUX, M. D.



NOTES

The Twelfth International Psychoanalysis Congress will be held in Inter-laken, Switzerland, September 7 to 10, 1931.

—The next annual meeting of the American Association for the Study of the Feeble-minded will be held at the Hotel Pennsylvania, New York City, May 25, 26, 27, 28, 1931.

—The American Psychiatric Association will hold its next annual meeting in Toronto, Ont., Canada, June 1 to 5, 1931. The headquarters will be at Hotel Royal York. The program committee, of which Dr. Samuel W. Hamilton is chairman, has prepared a program of unusual interest.

—The National Committee for Mental Hygiene, on April 1, 1931, moved its offices from 370 7th Avenue to 450 7th Avenue, New York City. The new location is on the northwest corner of 34th Street and 7th Avenue just north of the Pennsylvania Railroad Station.

—The final sessions of Section I of the White House Conference on Child Health and Protection, dealing with medical services, were held in Washington, D. C., February 19-21, 1931, under the chairmanship of Dr. Samuel McC. Hamill.

—The Neurological Institute of New York has begun publication of a Bulletin devoted to the presentation of the results of research conducted at the Institute into the morphology, physiology and pathology of the nervous system. It is expected that the Bulletin will appear quarterly.

—Further progress in medical teaching in New York City is anticipated through the affiliation of the New York Post Graduate Medical School and Hospital with Columbia University, which will become effective July 1, 1931.

—The Seventeenth Annual Summer School of the Rome State School will be open from July 1 to August 12, 1931. The work is planned to meet the needs of graduate students, social case workers and institution or special class teachers. The courses of instruction include social case work, psychology of the exceptional child, technique of mental testing, special class teaching and practical study in idio-imbecile habit training.

All communications should be addressed to Director of Summer School, Anna G. Briggs, Rome, N. Y.

—The Third Annual Meeting of the Pan-American Medical Association will be held in Mexico City on July 26 to 31, 1931. The meeting will be sponsored by the Department of Public Health of the United States of Mexico. Dr. Theodore H. Weisenburg has been appointed president of the section on neurology and psychiatry of the Association.

—An International Neurological Congress will be held in Berne, Switzerland, August 31 to September 4, 1931. The Congress is being actively supported by the Federal Council of Switzerland which has voted a considerable sum of money toward its financial support. The president of the Council is Dr. Bernard Sachs and the secretary-general, Dr. Henry Alsop Riley, of New York City.

—Dr. H. B. Logie, executive secretary of the National Conference on Nomenclature of Disease, recently announced that marked progress had been made by the conference and that the proposed new classification of diseases would probably be ready for final revision early next fall. The new nomenclature which undertakes to designate all disorders by etiology and by organ affected represents a marked advance over anything hitherto attempted in the classification of disease.

—Miss Katharine G. Ecob, executive secretary of the New York State Committee on Mental Hygiene, has been appointed chairman of the Mental Hygiene Committee of the New York State Federation of Women's Clubs. A mental hygiene program for women's clubs has been outlined and a copy will be sent to each club with a request for its cooperation. The program stresses preventive work and suggests activities along the line of educational work and promotion of local mental hygiene facilities.

—Dr. John W. Draper, attending surgeon of the New Jersey State Hospital for the Insane at Trenton, author of "Surgical Treatment of Insanity," died on January 26, 1931, at the Flower Hospital, New York City. He was 59 years old. He had made many contributions to medical literature. He was a member of the American Medical Association and the New York State Medical Society, and a fellow of the New York Academy of Medicine and the American College of Surgery.

—Announcement is made of a post-graduate course in Neurology and Psychiatry to be given in Vienna, Austria, from June 30 to July 31, 1931. The sessions, to be conducted in English, will be held in Professor Wagner von Jauregg's Neuropsychiatric Clinic, and at the Neurological Institute of Professor Marburg of the University of Vienna. Complete details may be obtained from the American Medical Association of Vienna, VIII, Alserstrasse 9, Vienna, Austria.

—Dr. George A. Pratt, of New York, has been appointed medical director of the New York State Mental Hygiene Committee of the State Charities Aid Association. For the past six years, Dr. Pratt has been assistant medical director of the National Committee for Mental Hygiene. He will serve in his new position on a part-time basis and will actively continue his staff connection with the National Committee. He will also carry on a special project dealing with the development of a model program of work for State and provincial mental hygiene organizations in the United States and Canada.

—Dr. Charles C. Burlingame, formerly executive officer of the Joint Administrative Board of the Medical Center of New York City, has been appointed physician in charge of Hartford Retreat of Hartford, Conn., a large private institution for mental diseases. Dr. Burlingame has had eight years' experience in psychiatric work in State institutions and for four years was medical director of the Fergus Falls State Hospital of Minnesota. During the war he was director of the medical and surgical department of the American Red Cross in France. As executive officer of the Joint Administrative Board he had a large part in the organization and development of the Columbia-Presbyterian Medical Center in New York.

—A dinner meeting arranged by the American Association of Mental Hygiene Executives, was held at the Hotel Pennsylvania on February 19, 1931. The meeting was called to bring about closer relationships between the different State societies and to discuss plans that would be mutually helpful.

Dr. C. M. Hincks, general director of the National Committee for Mental Hygiene, explained in detail new plans of the National Committee for expanding activities. One of the major projects of the National Committee for Mental Hygiene is the development of State and local societies for mental hygiene.

—Over \$15,000,000 has been made available by the New York State Legislature of 1931 for new construction and permanent betterments in connection with the prison system of the State. Of this amount, \$4,855,000 will be used for the development of Attica Prison; \$2,025,000 for the development of Clinton Prison; \$1,775,000 for the development of Sing Sing Prison; \$1,367,000 for construction work at the New York State Reformatory for Women at Bedford Hills; \$1,650,000 toward a new prison; and small items to the other institutions of the Department.

The new State prison will be located north of the town of Walkill, Ulster County, on State highway route No. 208. It will be classed as a "Medium Security Prison" and will have accommodations for 500 prisoners.

—Dr. Frederick L. Patry, formerly of the department of psychiatry of Johns Hopkins Hospital, Baltimore, and at one time of the staff of the Utica State Hospital, has been appointed psychiatrist in the bureau of health and physical education, of the State Department of Education. Dr. Patry will make a survey of the public schools of the State. The post which Dr. Patry fills was recently created for the purpose of making a scientific study of the effect of school life, educational methods and school organization on the health of the child physically, emotionally and mentally. The bureau will work in cooperation with the State Department of Mental Hygiene using the child guidance clinics already established by the latter.

—Dr. Frederick W. Parsons, Commissioner of Mental Hygiene, was appointed by Governor Roosevelt on March 2, 1931, a member of the commission of labor and medical experts to simplify procedure under which injured workers are to receive benefits from the workmen's compensation fund. The commission is headed by Miss Frances Perkins, industrial commissioner. Governor Roosevelt asked the commission to study several phases of compensation problems: payment of adequate rates to hospitals for handling compensation cases; elimination of delay in paying hospital charges; hospital record keeping in compensation cases; medical and hospital treatment of cases which have eluded payment, non-insured cases, unreported injuries and standards of medical and hospital treatment.

—The preliminary report of the Special Health Commission appointed by Governor Roosevelt in May, 1930, was submitted on February 16, 1931. The commission emphasized the necessity for greater efforts to decrease death rates from tuberculosis and cancer, to reduce child and maternal mortality, and to control venereal diseases. It advocated early discovery and treatment of crippled children, and stressed the need for additional safeguards in the purification of water supplies, and the prevention of pollution. The commission recommends the establishment of county health units to supersede the many small and ineffective town and village boards. It also urges the erection of three additional State hospitals for the treatment of tuberculosis.

—A "Guide to Statistics of Social Welfare in New York City," a volume of some 300 pages was recently published by the Welfare Council of New York City as the result of a two-year study of practically all existing, published and unpublished, statistical data bearing on the welfare of the people of this city and covering the period of 1920 to 1930.

Only 344 of the 1,500 separate sources of statistics studied are referred to, the others being rejected as lacking authenticity and scientific value. The guide was compiled by Miss Florence Dubois of the Research Bureau

of the Welfare Council and it was published after its workability had been demonstrated through experimental use of a manuscript copy over an extended period in the libraries of Columbia University.

—State nurseries are being developed on the farms of the State institutions of Illinois. At the Alton State Hospital a recent inventory showed that the nursery had 30,000 trees and shrubs ready for transplanting on the premises or for transferring to other places. Apple trees sufficient to plant on an orchard of 50 acres were available and 150,000 asparagus plants were ready for distribution. The nursery at the Anna State Hospital is producing annually 25,000 trees and bushes for beautifying the grounds and for transferring to other places. The nursery at the Lincoln State School and Colony has grown 20,000 Austrian pines. This nursery also cultivates hardly flowering shrubs and trees. Nurseries are also being developed at the Kankakee State Hospital, Dixon State Hospital and several other state institutions.

—Dr. Claude Uhler, of Baltimore, Md., was recently appointed assistant psychiatrist in the State Department of Mental Hygiene.

Dr. Uhler received his medical degree from Johns Hopkins University in 1919. Following graduation he served as interne in the Phipps Psychiatric Clinic at Baltimore for 16 months and later as resident physician at Baylor University Hospital in Texas for one year. He became director of the neuropsychiatric division of the Freeman Memorial Clinic of Dallas, Texas, in 1922 and continued in this work for seven years. Returning to Maryland he had charge of a private sanitarium for mental diseases for one year.

For the Department of Mental Hygiene, Dr. Uhler will conduct child guidance clinics in various parts of the State.

—Senate Bill 1812 authorizing the annual collection by the Federal Census Bureau of Statistics relating to crime and to the defective, dependent and delinquent classes was passed by Congress during the last days of the session which closed March 4, 1931. This bill was sponsored by the National Committee for Mental Hygiene and the American Psychiatric Association and received the endorsement of the American Statistical Association, the American Prison Association and several other national organizations. Its final passage was secured only through strenuous efforts by members of the staff of the National Committee for Mental Hygiene with the assistance of a few socially-minded congressmen. The Federal Census Bureau, which has already cooperated in the movement for better statistics of institutions will now be in a position to perfect and enlarge its system

of collecting annual data from institutions throughout the country.

—The eighth annual meeting of the American Orthopsychiatric Association was held at the Hotel Pennsylvania, New York City, February 20-21, 1931, inclusive. The following papers were among those read at the several sessions: "The Rorschach Test in Problem Children," by Samuel J. Beck; "Phantasy Life of High School Students," by John Levy, M. D., and Ruth Munroe; "A Study of the Problems of Normal Children," by George H. Preston, M. D.; "The Relation of Left Handedness to Behavior Disorders," by Ira S. Wile, M. D.; "Viewpoints on Stuttering," by Frederick W. Brown; "Validity of Statistical Methods in Psychiatric Work," by Curt Rosenow, Ph. D.; "The Prediction of Mental Disease in Children," by Jacob Kasanin, M. D., and Louise Veo; "Etiologic Study and Treatment of Psychoses in Childhood," by Samuel W. Hartwell, M. D.; and "Psychiatric Study of Stealing," by Harry M. Tiebout, M. D.

—The building program of the State Department of Mental Hygiene for the coming year includes new buildings for patients and employees at several State hospitals, as follows:

State hospital	New accommodations	
	For patients	For employees
Brooklyn	500	420
Creedmoor Division	260
Harlem Valley	2,600	400
Hudson River	550	100
Kings Park	300	250
Pilgrim	1,700	700
Total	5,650	2,130

The new buildings for employees will release accommodations for patients now used for employees, as follows: At Creedmoor Division, 185; at Harlem Valley State Hospital, 112; at Kings Park State Hospital, 100. The total new accommodations for patients provided by this program, therefore, will be 6,047.

Contracts for the new buildings at Creedmoor Division and Pilgrim State Hospital have already been let; the other contracts will be awarded before mid-summer.